Q Corresponding MELSECNET/H
Remote I/O Module

MITSUBISHI

Reference Manual

(MELSECNET/10 Mode)

Mitsubishi
Programmable Controller

MELSEC-Q

QJ72LP25-25
QJ72LP25G
QJ72LP25GE
QJ72BR15

●SAFETY PRECAUTIONS●

(Read these precautions before using this product.)

Before using this product, please read this manual and the relevant manuals carefully and pay full attention to safety to handle the product correctly.
The precautions given in this manual are concerned with this product only. For the safety precautions of the programmable controller system, refer to the user's manual for the CPU module used.

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

⚠WARNING	Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
⚠CAUTION	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]

⚠WARNING

- In the case of a communication failure in the network, the status of the error station will be as follows: Check the communication status information and configure an interlock circuit in the sequence program to ensure that the entire system will operate safely. Failure to do so may result in an accident due to an incorrect output or malfunction.
  (1) The remote master station will hold the data before the communication error.
  (2) The remote I/O station turns off all outputs. The output module of the remote I/O station can clear/hold the output status at an error by using the remote I/O module parameters. As the parameters are set to "clear" by default, the output module turns off the outputs at an error. If it is required to hold the output to operate the system safely, set the parameters to "hold".
  (3) When the output is set to "hold" with the Q4ARCPU (stand-alone system) and the A6RAF (redundant system), the remote I/O station turns off all outputs. If it is required to hold the output to operate the system safely, set the parameters of the remote I/O station to "hold".
- When connecting a peripheral with the CPU module or connecting an external device, such as a personal computer, with an intelligent function module to modify data of a running programmable controller, configure an interlock circuit in the sequence program to ensure that the entire system will always operate safely. For other forms of control (such as program modification or operating status change) of a running programmable controller, read the relevant manuals carefully and ensure that the operation is safe before proceeding. Especially, when a remote programmable controller is controlled by an external device, immediate action cannot be taken if a problem occurs in the programmable controller due to a communication failure. To prevent this, configure an interlock circuit in the sequence program, and determine corrective actions to be taken between the external device and CPU module in case of a communication failure.
- 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 sequence program to ensure that the entire system will always operate safely even if communications fail. Failure to do so may result in an accident due to an incorrect output or malfunction.

[Design Precautions]

⚠CAUTION

- Always reset the CPU module after changing the parameters for the CPU module or the remote I/O module. Failure to do so, data before the change may cause malfunction.
- Do not install the control lines or communication cables together with the main circuit lines or power cables. Keep a distance of 100mm or more between them. Failure to do so may result in malfunction due to noise.

[Installation Precautions]

⚠CAUTION

- Use the programmable controller in an environment that meets the general specifications in the user's manual for the CPU module used. Failure to do so may result in electric shock, fire, malfunction, or damage to or deterioration of the product.
- To mount the module, while pressing the module mounting lever located in the lower part of the module, fully insert the module fixing projection(s) into the hole(s) in the base unit and press the module until it snaps into place. Incorrect mounting may cause malfunction, failure or drop of the module.
  When using the programmable controller in an environment of frequent vibrations, fix the module with a screw.
- Tighten the screws within the specified torque range. Undertightening can cause drop of the screw, short circuit, or malfunction. Overtightening can damage the screw and/or module, resulting in drop, short circuit, or malfunction.
- Shut off the external power supply (all phases) used in the system before mounting/removing a module or connecting/disconnecting a connector. Failure to do so may result in damage to the product.
  For the remote I/O stations of function version D or later, online module change can be performed. Note that there are restrictions on the modules that can be replaced online, and each module has its predetermined replacement procedure.
  For details, refer to the online module change in the Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/O network).
- Do not directly touch any conductive parts and electronic components of the module.
  Doing so can cause malfunction or failure of the module.

[Wiring Precautions]

⚠ 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 damage to the product.

[Wiring Precautions]

⚠ CAUTION

- Individually ground the FG terminal of the programmable controller with a ground resistance of 100Ω or less. Failure to do so may result in electric shock or malfunction.
- Check the rated voltage and terminal 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 a fire or failure.
- Connectors for external devices and coaxial cables 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.
- Place the cables in a duct or clamp them.
  If not, dangling cable may swing or inadvertently be pulled, resulting in damage to the module or cables or malfunction due to poor contact.
- Tighten the terminal screws within the specified torque range.
  Undertightening can cause short circuit, fire, or malfunction.
  Overtightening can damage the screw and/or module, resulting in drop, short circuit, 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.
- Prevent foreign matter such as dust or wire chips from entering the module.
  Such foreign matter can cause a fire, failure, or malfunction.
- A protective film is attached to the top of the module to prevent foreign matter, such as wire chips, from entering the module during wiring.
  Do not remove the film during wiring.
  Remove it for heat dissipation before system operation.
- Mitsubishi 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 wiring methods, refer to the QCPU User's Manual (Hardware Design, Maintenance and Inspection).

[Startup and Maintenance Precautions]

⚠WARNING

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

[Startup and Maintenance Precautions]

⚠CAUTION

- Before performing online operations (especially, program modification, forced output, and operating status change) for the running CPU module on another station from GX Developer over the MELSECNET/10 network, read relevant manuals carefully and ensure the safety.
  Improper operation may damage machines or cause accidents.
- 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 (9.85 inches) 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/removing a module or connecting/disconnecting a connector. Failure to do so may cause the module to fail or malfunction.
  For the remote I/O network systems of function version D or later, online module change can be performed. Note that there are restrictions on the modules that can be replaced online, and each module has its predetermined replacement procedure.
  For details, refer to the online module change in the Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/O network).
- After the first use of the product, do not mount/remove the module to/from the base unit more than 50 times (IEC 61131-2 compliant).
  Exceeding the limit of 50 times may cause malfunction.
- Before handling the module, touch a conducting object such as a grounded metal to discharge the static electricity from the human body.
  Failure to do so may cause the module to fail or malfunction.

[Disposal Precautions]

⚠WARNING

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

●CONDITIONS OF USE FOR THE PRODUCT●

(1) Mitsubishi programmable controller ("the PRODUCT") shall be used in conditions;
i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and
ii) where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.

(2) The PRODUCT has been designed and manufactured for the purpose of being used in general industries.
MITSUBISHI SHALL HAVE NO RESPONSIBILITY OR LIABILITY (INCLUDING, BUT NOT LIMITED TO ANY AND ALL RESPONSIBILITY OR LIABILITY BASED ON CONTRACT, WARRANTY, TORT, PRODUCT LIABILITY) FOR ANY INJURY OR DEATH TO PERSONS OR LOSS OR DAMAGE TO PROPERTY CAUSED BY the PRODUCT THAT ARE OPERATED OR USED IN APPLICATION NOT INTENDED OR EXCLUDED BY INSTRUCTIONS, PRECAUTIONS, OR WARNING CONTAINED IN MITSUBISHI'S USER, INSTRUCTION AND/OR SAFETY MANUALS, TECHNICAL BULLETINS AND GUIDELINES FOR the PRODUCT.
("Prohibited Application")
Prohibited Applications include, but not limited to, the use of the PRODUCT in;
- Nuclear Power Plants and any other power plants operated by Power companies, and/or any other cases in which the public could be affected if any problem or fault occurs in the PRODUCT.
- Railway companies or Public service purposes, and/or any other cases in which establishment of a special quality assurance system is required by the Purchaser or End User.
- Aircraft or Aerospace, Medical applications, Train equipment, transport equipment such as Elevator and Escalator, Incineration and Fuel devices, Vehicles, Manned transportation, Equipment for Recreation and Amusement, and Safety devices, handling of Nuclear or Hazardous Materials or Chemicals, Mining and Drilling, and/or other applications where there is a significant risk of injury to the public or property.

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

INTRODUCTION

Thank you for purchasing the Mitsubishi MELSEC-Q series programmable controllers.
This manual describes the procedures, system configuration, parameter settings, functions, programming, troubleshooting of the MELSECNET/10 mode for the MELSECNET/H remote I/O module.

Before using this product, please read this manual and the relevant manuals carefully and develop familiarity with the functions and performance of the MELSEC-Q series programmable controller to handle the product correctly.
When applying the program examples introduced in this manual to an actual system, ensure the applicability and confirm that it will not cause system control problems.

Please make sure that the end users read this manual.

COMPLIANCE WITH EMC AND LOW VOLTAGE DIRECTIVES

(1) Method of ensuring compliance

To ensure that Mitsubishi programmable controllers maintain EMC and Low Voltage Directives when incorporated into other machinery or equipment, certain measures may be necessary. Please refer to one of the following manuals.

- QCPU User's Manual (Hardware Design, Maintenance and Inspection)
- Safety Guidelines
  (This manual is included with the CPU module or base unit.)

The CE mark on the side of the programmable controller indicates compliance with EMC and Low Voltage Directives.

(2) Additional measures

To ensure that this product maintains EMC and Low Voltage Directives, please refer to one of the manuals listed under (1).

RELEVANT MANUALS

(1) CPU module user's manual

Manual name <Manual number (model code)>	Description
QCPU User's Manual (Hardware Design, Maintenance and Inspection) <SH-080483ENG, 13JR73>	Specifications of the hardware (CPU modules, power supply modules, base units, extension cables, memory cards, SD memory cards, extended SRAM cassettes, and batteries), system maintenance and inspection, troubleshooting, and error codes

(2) Reference manual

Manual name <Manual number (model code)>	Description
Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/O network) <SH-080124, 13JF96>	System configuration, performance specifications, procedures before operation, parameter settings, functions, programming, and troubleshooting of the MELSECNET/H network system (remote I/O network) with the MELSEC-Q series MELSECNET/H remote I/O module
Type MELSECNET/10 Network System (Remote I/O network) Reference Manual <SH-3509, 13JE72>	System configuration, performance specifications, procedures before operation, parameter settings, functions, programming, and troubleshooting of the MELSECNET/10 network system (remote I/O network) with the MELSEC-A series MELSECNET/10 remote I/O module
For QnA/Q4AR MELSECNET/10 Network System Reference Manual <IB-66690, 13JF78>	System configuration, performance specifications, procedures before operation, parameter settings, functions, programming, and troubleshooting of the MELSECNET/10 network system with the MELSEC-QnA series MELSECNET/10 remote I/O module

(3) Transition handbook

Handbook name <Number>	Description
Transition from MELSEC-A/QnA (Large Type) Series to Q Series Handbook (Fundamentals) <L08043ENG>	Alternative models of CPU modules or I/O modules after replacement for the transition from MELSEC-A/QnA (large type) series to Q series
Transition from MELSEC-A/QnA (Large Type) Series to Q Series Handbook (Intelligent function modules) <L08046ENG>	Alternative models of intelligent function modules for the transition from MELSEC-A/QnA (large type) series to Q series
Transition from MELSEC-A/QnA (Large Type), AnS/QnAS (Small Type) Series to Q Series Handbook (Communications) <L08050ENG>	Alternative models of computer link modules for the transition from MELSEC-A/QnA (large type) series or MELSEC-AnS/QnAS (small type) to Q series
Transition from MELSEC-AnS/QnAS (Small Type) Series to Q Series Handbook (Fundamentals) <L08219ENG>	Alternative models of CPU modules or I/O modules after replacement for the transition from MELSEC-AnS/QnAS (small type) series to Q series
Transition from MELSEC-AnS/QnAS (Small Type) Series to Q Series Handbook (Intelligent Function Modules) <L08220ENG>	Alternative models of intelligent function modules for the transition from MELSEC-AnS/QnAS (small type) series to Q series

Memo

CONTENTS

SAFETY PRECAUTIONS 1
CONDITIONS OF USE FOR THE PRODUCT 6
INTRODUCTION 7
COMPLIANCE WITH EMC AND LOW VOLTAGE DIRECTIVES 7
RELEVANT MANUALS 8
MANUAL PAGE ORGANIZATION 12
TERMS 13
PACKING LIST 15

CHAPTER 1 OVERVIEW 16

1.1 Reference Manuals 16
1.2 Abbreviations Used in the Text, Tables, and Figures 18

CHAPTER 2 SYSTEM CONFIGURATION 19

2.1 Overall System Configuration 19
2.2 Applicable System 19

CHAPTER 3 SPECIFICATIONS 23

3.1 Performance Specifications 23
3.2 Function List 25
3.2.1 Function list of the MELSECNET/10 remote I/O network 25
3.2.2 Function list of the MELSECNET/H remote I/O module 31
3.2.3 Link data send/receive processing time 32

CHAPTER 4 SETTING AND PROCEDURE BEFORE OPERATION 33

4.1 Procedure Before Operation 33
4.2 Part Names and Settings 35
4.3 Unit Tests of the MELSECNET/H Remote I/O Module (Offline Test) 39
4.3.1 Self-loopback test 40
4.3.2 Internal self-loopback test 41
4.3.3 Hardware test 42
4.4 Network Diagnostics (Online Test) 43
4.4.1 Loop test (optical loop system only) 44
4.4.2 Setup confirmation test 45
4.4.3 Station order check test (optical loop system only) 46
4.4.4 Communication test 47

CHAPTER 5 PARAMETER SETTING 49

5.1 Parameter Setting for Remote I/O Stations 49

CHAPTER 6 PROGRAMMING 53

6.1 Precautions for System Replacement 53
6.2 System Replacement Example 54
6.2.1 System configuration 54

6.2.2 Parameter setting . . . 55
6.2.3 Program examples . . . 61

CHAPTER 7 TROUBLESHOOTING 70

7.1 Checking an error with LEDs . . . 71
7.1.1 When the RUN LED is not on . . . 72
7.1.2 When the REM. LED is off or flashing . . . 72
7.1.3 When the ERR. LED is on or flashing . . . 73
7.1.4 When the L ERR. LED is on . . . 73
7.1.5 When the T.PASS LED is off or flashing . . . 74
7.1.6 When the D.LINK LED is off . . . 74
7.2 Network Diagnostics . . . 75
7.2.1 Host information . . . 75
7.2.2 Other station information . . . 77
7.2.3 Network monitor details . . . 78
7.2.4 Error history monitor . . . 81
7.3 Troubleshooting by Symptom . . . 84
7.3.1 Items checked first . . . 84
7.3.2 Items checked when data link cannot be performed throughout the system . . . 85
7.3.3 Items checked when data link is disabled by resetting or powering off a station . . . 85
7.3.4 Items checked when data link cannot be performed on a certain station . . . 86
7.3.5 Items checked when an communication data error is detected . . . 87
7.3.6 Items checked when a link dedicated instruction does not complete . . . 87
7.4 Error Codes . . . 88
7.4.1 Checking error codes . . . 88
7.4.2 Error code list of MELSECNET/10 . . . 91
7.4.3 Error code list of the errors that the remote I/O station detects as well as a CPU module does . . . 93

APPENDICES 100

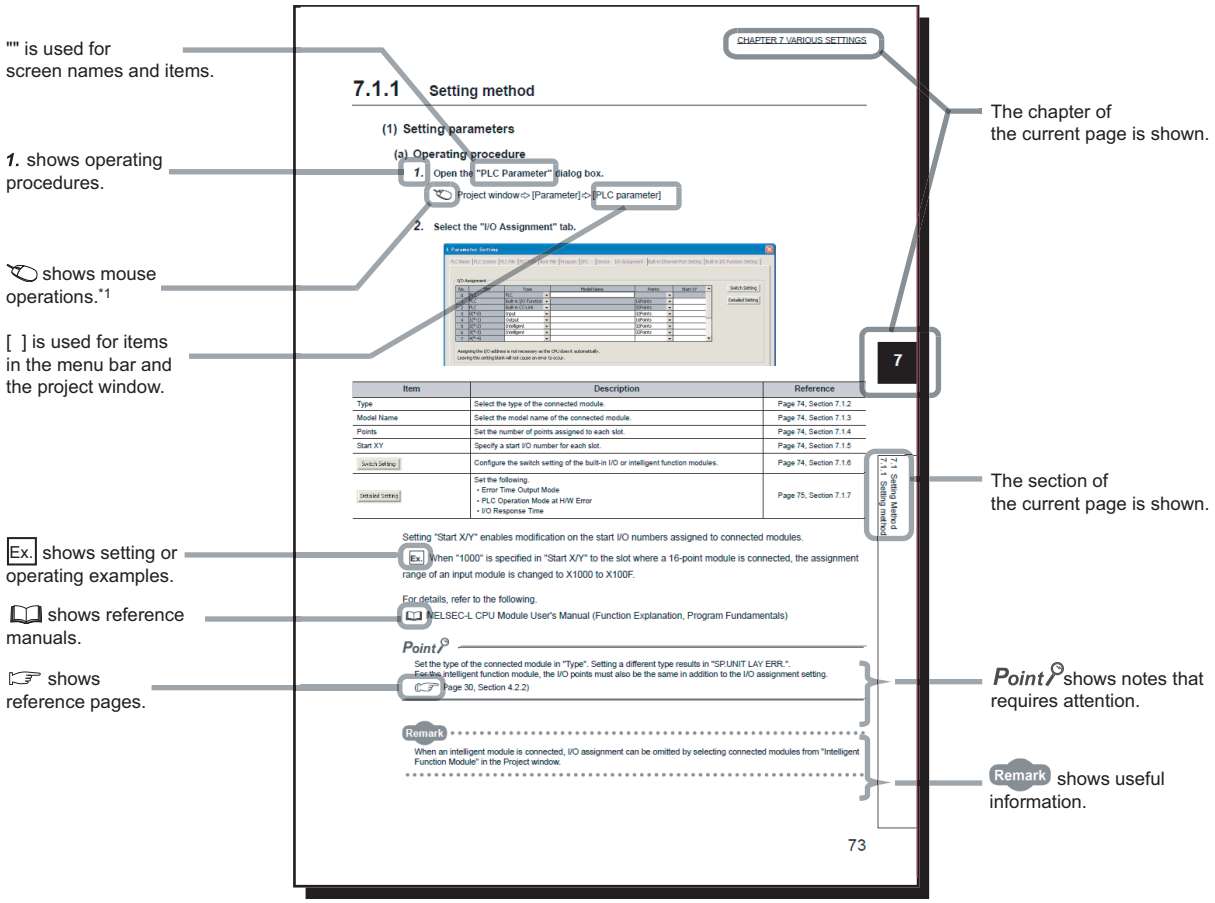
Appendix 1 Link Special Relay (SB) . . . 100
Appendix 2 Link Special Register (SW) . . . 101
Appendix 3 Special Relay (SM) for MELSECNET/H (MELSECNET/10 Mode) Remote I/O Station . . . 102
Appendix 4 Special Register (SD) for MELSECNET/H (MELSECNET/10 Mode) Remote I/O Station . . . 106
Appendix 5 Product Comparison . . . 125
Appendix 6 Checking Serial Number and Function Version . . . 127
Appendix 7 External Dimensions . . . 129

INDEX 132

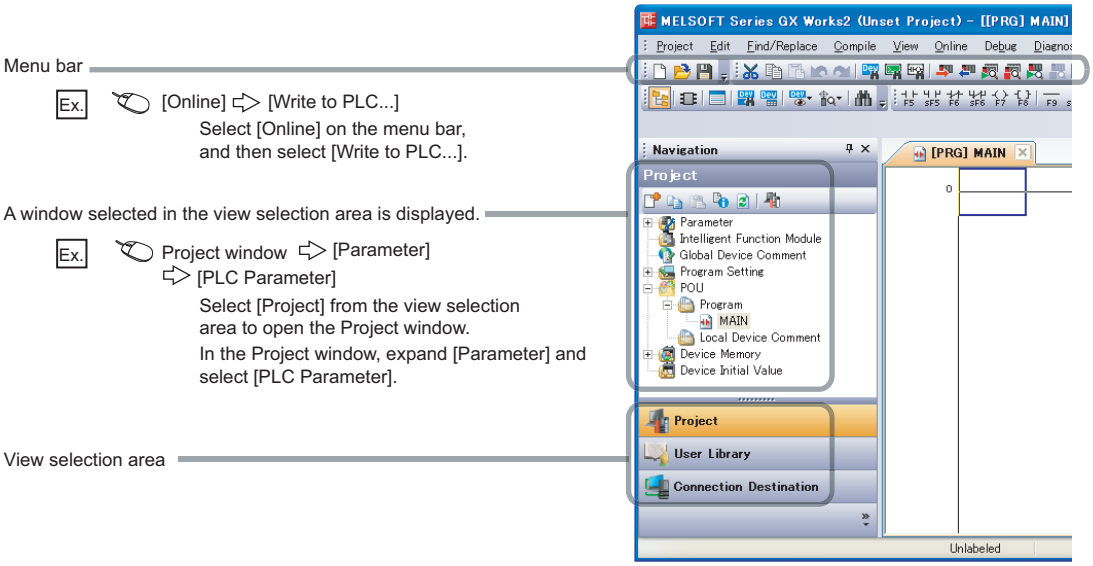
REVISIONS . . . 134
WARRANTY . . . 135

MANUAL PAGE ORGANIZATION

In this manual, pages are organized and the symbols are used as shown below.
The following illustration is for explanation purpose only, and should not be referred to as an actual documentation.



*1 The mouse operation example is provided below.



TERMS

Unless otherwise specified, this manual uses the following terms.

Term	Description
MELSECNET/H remote I/O module	A generic term for the QJ72LP25-25, QJ72LP25G, QJ72LP25GE, and QJ72BR15
MELSECNET/10 mode	A mode to use the MELSECNET/H remote I/O module on the MELSECNET/10 remote I/O network
MELSECNET/H (MELSECNET/10 mode) remote I/O station	A remote I/O station when the MELSECNET/H remote I/O module has operated in the MELSECNET/10 mode
MELSECNET/H remote I/O station	A remote I/O station with the MELSECNET/H remote I/O module
MELSECNET/10 remote I/O module	A generic term for the AJ72LP25, AJ72LP25G, AJ72LR25, AJ72BR15, AJ72QLP25, AJ72QLP25G, AJ72QLR25, AJ72QBR15, A1SJ72QLP25, A1SJ72QLR25, and A1SJ72QBR15
MELSECNET/10 remote I/O station	A remote I/O station with the MELSECNET/10 remote I/O module
Remote I/O module	A generic term for the MELSECNET/H remote I/O module and MELSECNET/10 remote I/O module
Remote I/O station	A station which performs the cyclic transmission according to the range assigned at the remote master station. A generic term for the MELSECNET/H (MELSECNET/10 mode) remote I/O station and MELSECNET/10 remote I/O station
MELSECNET/10 remote master module	A generic term for the AJ71LP21, AJ71LP21G, AJ71LR21, AJ71BR11, A1SJ71LP21, A1SJ71LR21, A1SJ71BR11, AJ71QLP21, AJ71QLP21G, AJ71QLP21S, AJ71QLR21, AJ71QBR11, A1SJ71QLP21, A1SJ71QLP21S, A1SJ71QLR21, and A1SJ71QBR11
Remote master station	A station where the network parameter for data link is set. A single master station is required on the MELSECNET/10 remote I/O network.
Network module	A generic term for the MELSECNET/10 remote master module, MELSECNET/10 remote I/O module, and MELSECNET/H remote I/O module
Relay station	A station that relays the transient transmission to other networks. A station which transfers a link device of a network module to other network modules. Multiple network modules are mounted on a base unit.
Reserved station	A station reserved for future use. This station is not actually connected, but counted as a connected station.
GPPA	Product names of the software packages for the MELSEC programmable controllers.
GPPQ	
GX Developer	
GX Works2	
Peripheral	A generic term for GPPA, GPPQ, and GX Developer used by connecting to the remote master station
RAS	An abbreviation for "Reliability", "Availability", and "Serviceability". This term refers to usability of automated equipment.
Group number	A number that specifies the target stations for the transient transmission. If the target stations for the transient transmission are specified as a group, data can be sent to the stations in the same group.
Cyclic transmission	A function that periodically exchanges data between the remote master station and remote I/O stations using the link device LB, LW, LX, or LY of a network module
Device	A device (X, Y, M, or D) in a CPU module or MELSECNET/H remote I/O module
Transient transmission	A function of communication with a programmable controller in other stations, which is used when requested a link dedicated instruction or peripherals. This function can communicate with a programmable controller on the same network and other networks.
Buffer memory	A memory in an intelligent function module and special function module to store data temporary. The MELSECNET/10 remote master module does not have any buffer memory area that users can use.

Term	Description
Baton pass	A token used to send data to a network
Link scan time	Time required for all stations on a network to transmit data. The link scan time depends on data volume and the number of transient transmission requests.
Link device	A device (LB, LW, LX, or LY) in a network module
Link refresh	In the remote master station, data transfer between a link device in the MELSECNET/10 remote master module and a device in a CPU module. Link refresh is performed in the END processing of the CPU module's sequence scan.
Link dedicated instruction	A dedicated instruction is used in the transient transmission.
Disconnection	A process of stopping data link if a data link error occurs
Automatic return	A function that a station disconnected from the data link automatically recovers in the data link when the station returns normal
Transmission delay time	A maximum period taken for the following process: 1: The remote I/O station sends data. 2: The remote master station receives the data. 3: The data arrive at the operation segment in the CPU module. In addition, a maximum period taken for the following process: 1: The result of the operation is sent from the CPU module. 2: The remote master station receives the result and sends the result to the remote I/O station. 3: The remote I/O station receives the result.
Return	A process of restarting data link when a station recovers from an error
ZNFR instruction, ZNTO instruction	A generic term for the ZNFR instruction and ZNTO instruction for the MELSEC-A series remote master station, and the JP/GP.ZNFR instruction and JP/GP.ZNTO instruction for the MELSEC-QnA series remote master station
Built-in Ethernet port QCPU	A generic term for the Q03UDVCPU, Q03UDECPU, Q04UDVCPU, Q04UDEHCPU, Q06UDVCPU, Q06UDEHCPU, Q10UDEHCPU, Q13UDVCPU, Q13UDEHCPU, Q20UDEHCPU, Q26UDVCPU, Q26UDEHCPU, Q50UDEHCPU, and Q100UDEHCPU
Intelligent function module	A MELSEC-Q series module that has functions other than input and output, such as an A/D converter module and D/A converter module
High Performance model QCPU	A generic term for the Q02CPU, Q02HCPU, Q06HCPU, Q12HCPU, and Q25HCPU
Process CPU	A generic term for the Q02PHCPU, Q06PHCPU, Q12PHCPU, and Q25PHCPU
Basic model QCPU	A generic term for the Q00JCPU, Q00CPU, and Q01CPU
Universal model QCPU	A generic term for the Q00UJCPU, Q00UCPU, Q01UCPU, Q02UCPU, Q03UDCPU, Q03UDVCPU, Q03UDECPU, Q04UDHCPU, Q04UDVCPU, Q04UDEHCPU, Q06UDHCPU, Q06UDVCPU, Q06UDEHCPU, Q10UDHCPU, Q10UDEHCPU, Q13UDHCPU, Q13UDVCPU, Q13UDEHCPU, Q20UDHCPU, Q20UDEHCPU, Q26UDHCPU, Q26UDVCPU, Q26UDEHCPU, Q50UDEHCPU, and Q100UDEHCPU
Special function module	A MELSEC-A/QnA series module that has functions other than input and output, such as an A/D converter module and D/A converter module
Redundant CPU	A generic term for the Q12PRHCPU and Q25PRHCPU

PACKING LIST

The following items are included in the package of this product. Before use, check that all the items are included.

(1) QJ72LP25-25

Product name	Quantity
QJ72LP25-25	1
Before Using the Product	1

(2) QJ72LP25G

Product name	Quantity
QJ72LP25G	1
Before Using the Product	1

(3) QJ72LP25GE

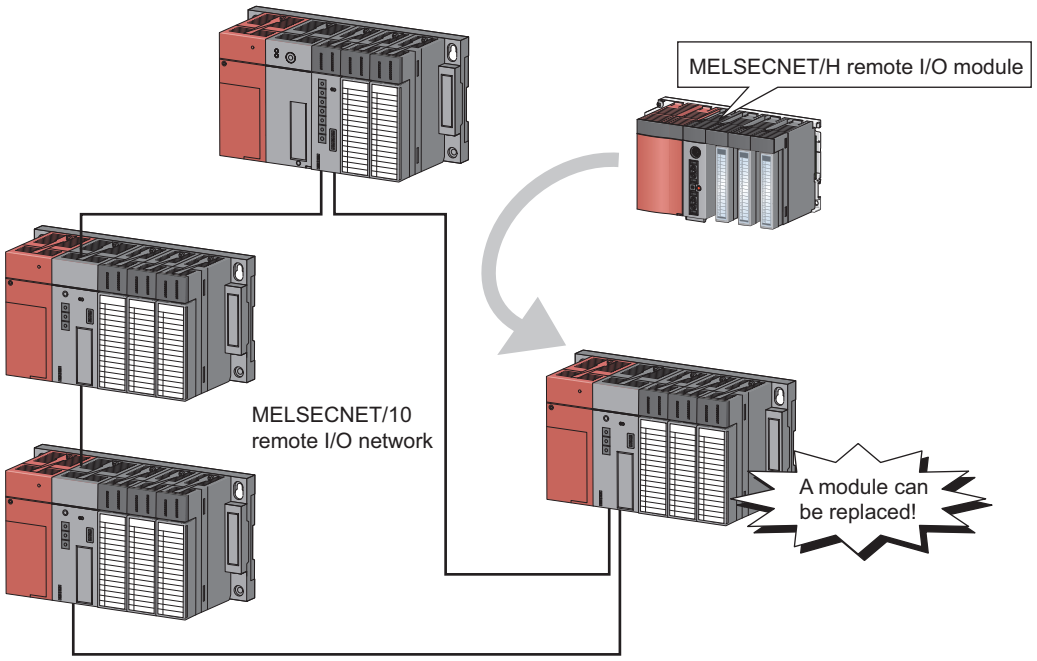
Product name	Quantity
QJ72LP25GE	1
Before Using the Product	1

(4) QJ72BR15

Product name	Quantity
QJ72BR15	1
F-type connector (A6RCON-F)	1
Before Using the Product	1

CHAPTER 1 OVERVIEW

Use of a MELSECNET/H remote I/O module in MELSECNET/10 mode enables a replacement of a MELSECNET/10 remote I/O station with a MELSECNET/H (MELSECNET/10 mode) remote I/O station.



1.1 Reference Manuals

For using a MELSECNET/H remote I/O module in MELSECNET/10 mode, refer to the following manuals according to the purpose.

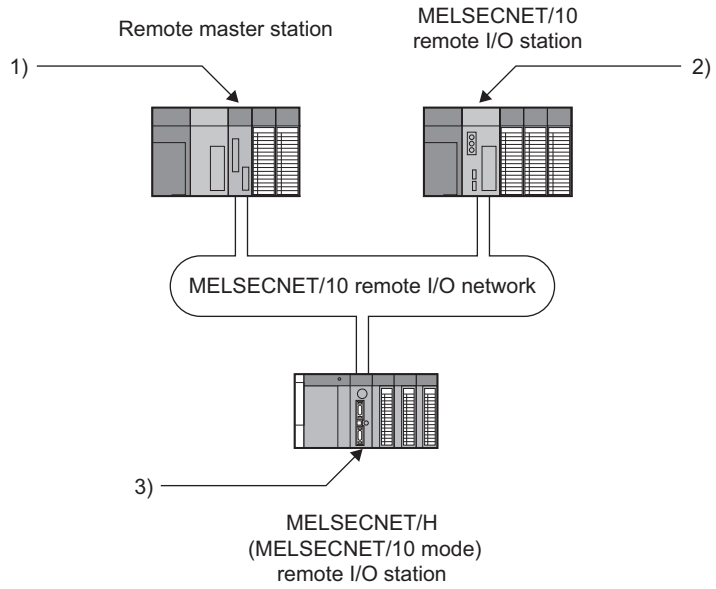
For details on each manual such as the manual numbers, refer to the following.

RELEVANT MANUALS

No.	Manual name
1)	This manual
2)	QCPU User's Manual (Hardware Design, Maintenance and Inspection)
3)	Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/O network)
4)	Type MELSECNET/10 Network System (Remote I/O network) Reference Manual
5)	For QnA/Q4AR MELSECNET/10 Network System Reference Manual
6)	Transition from MELSEC-A/QnA (Large Type) Series to Q Series Handbook (Fundamentals)
	Transition from MELSEC-A/QnA (Large Type) Series to Q Series Handbook (Intelligent Function Modules)
	Transition from MELSEC-A/QnA (Large Type), AnS/QnAS (Small Type) Series to Q Series Handbook (Communications)
	Transition from MELSEC-AnS/QnAS (Small Type) Series to Q Series Handbook (Fundamentals)
	Transition from MELSEC-AnS/QnAS (Small Type) Series to Q Series Handbook (Intelligent Function Modules)

Purpose	Manual					
	1)	2)	3)	4)	5)	6)
■System configuration						
Overall system configuration of MELSECNET/10				○	○	
Applicable systems for the MELSECNET/H remote I/O module	○					
Selecting models in the replacement						○
■Specifications and functions						
Specifications	○					
Availability of the functions of the MELSECNET/10 remote I/O network	○					
Availability of the functions of the MELSECNET/H remote I/O module	○					
Details on the functions of the MELSECNET/10 remote I/O network				○	○	
Details on the functions of the MELSECNET/H remote I/O module			○			
■Procedure before operation						
Procedure before operation	○					
Part names of the MELSECNET/H remote I/O module	○					
Mounting and removing a module		○				
Connecting cables			○	○	○	
Unit tests of the MELSECNET/H remote I/O module	○					
Offline test in a remote master station				○	○	
■Parameter setting						
Parameter setting for a remote master station				○	○	
Parameter setting for the MELSECNET/H (MELSECNET/10 mode) remote I/O station	○					
■Programming						
Replacing the existing remote I/O station	○					○
■Troubleshooting						
Procedure for troubleshooting	○					
Checking troubles on the remote master station				○	○	
Checking troubles on the MELSECNET/10 remote I/O station				○	○	
Checking troubles on the MELSECNET/H (MELSECNET/10 mode) remote I/O station	○					
■Error code						
Error codes for the MELSECNET/10 remote I/O network	○			○	○	
Error codes equivalent to those of a CPU module detected on the MELSECNET/H (MELSECNET/10 mode) remote I/O station	○					
■Others						
Link special relay (SB), and link special register (SW)	○		○	○	○	
Special relay (SM) for the MELSECNET/H (MELSECNET/10 mode) remote I/O station, and special register (SD) for the MELSECNET/H (MELSECNET/10 mode) remote I/O station	○					

1.2 Abbreviations Used in the Text, Tables, and Figures



No.	Name
1)	MELSECNET/10 remote master module
2)	MELSECNET/10 remote I/O module
3)	MELSECNET/H remote I/O module
1)+2)+3)	Network module

CHAPTER 2 SYSTEM CONFIGURATION

2.1 Overall System Configuration

This section describes a system configuration where the MELSECNET/H remote I/O module is used in MELSECNET/10 mode.

In optical loop systems and coaxial bus systems (except parallel master systems), the MELSECNET/H remote I/O module (MELSECNET/10 mode) can be used in the same system configuration for the MELSECNET/10 remote I/O module.
No coaxial loop system or parallel master system can be configured when the MELSECNET/H remote I/O module is used in MELSECNET/10 mode. Consider a different system configuration referring to the following table.

○: Configurable ×: Not configurable

System		Configurability	Remarks
Optical loop system		○	—
	Multiple master system	○	—
	Parallel master system	×	The system needs to be separated.
	Redundant system using the Q4ARCPU	○	—
Coaxial bus system		○	—
	Multiple master system	○	—
	Parallel master system	×	The system needs to be separated.
	Redundant system using the Q4ARCPU	○	—
Coaxial loop system		×	Consider replacing the system with a coaxial bus system.

2.2 Applicable System

This section describes the applicable system of the MELSECNET/H (MELSECNET/10 mode) remote I/O station.

(1) Compatible MELSECNET/H remote I/O module

The MELSECNET/H remote I/O module with a serial number (first five digits) of "15012" or later can be used in MELSECNET/10 mode.

(2) Compatible software package

GX Developer or GX Works2 of the following version can be used for the MELSECNET/H remote I/O module.

Software package	Supported version
GX Developer	Version 6 or later
GX Works2	Version 1.40S or later

(3) Mountable main base unit, mountable power supply module, number of mountable modules

Mount the MELSECNET/H remote I/O module on the CPU slot of a main base unit.

Main base unit	Power supply module	Number of mountable MELSECNET/H remote I/O modules	Remarks
Q33B, Q35B, Q38B, Q312B	Q6□P	1	Mountable only on the CPU slot
Q35BL, Q38BL (Q series large type main base unit)	Q6□P		
Q35BLS, Q35BLS-D, Q38BLS, Q38BLS-D (Q series large type main base unit (AnS series size))	Q6□P		
Q32SB, Q33SB, Q35SB (Slim type main base unit)	Q61SP		
Q35DB, Q38DB, Q312DB (Multiple CPU high-speed main base unit)	Q6□P		
Q38RB (Main base unit for redundant power supply system)	Q63RP, Q64RP		

(4) Applicable extension base unit

The system including the MELSECNET/H remote I/O module can be extended using extension base units.

Extension base unit	Extension cable*2 (Overall cable distance: 13.2m or less)	Number of extension base units
Q63B, Q65B, Q68B, Q612B (Extension base unit (type requiring a power supply module))	QC05B, QC06B, QC12B, QC30B, QC50B, QC100B	Max. 7
Q52B, Q55B (Extension base unit (type requiring no power supply module))*1		
Q65BL, Q68BL (Q series large type extension base unit (type requiring a power supply module))		
Q55BL (Q series large type extension base unit (type requiring no power supply module))*1		
Q65BLS, Q65BLS-D, Q68BLS, Q68BLS-D (Q series large type extension base unit (AnS series size) (type requiring a power supply module))		
Q55BLS, Q55BLS-D (Q series large type extension base unit (AnS series size) (type requiring no power supply module))*1		
Q68RB (Extension base unit for redundant power supply system)		

*1 Calculate the operating voltage of the extension base unit used and check that the voltage is within the rating.
- For the calculation formula, refer to the QCPU User's Manual (Hardware Design, Maintenance and Inspection).
- For the current consumption of each module mounted on the extension base unit, refer to the manual for each module used.

*2 When using extension cables, pay attention to the following.
- Do not install extension cables together with the main circuit lines (high voltage and large current).
- Connect a cable between the OUT connector of an extension base unit and the IN connector of the next-level extension base unit.

(5) Applicable modules

The MELSEC-Q series modules can be used with the MELSECNET/H remote I/O module. Note that some modules have restrictions.

(a) Functional restrictions

The use of interrupt pointers and dedicated instructions for intelligent function modules are not supported.

(b) Number of mountable modules

Model	Number of mountable modules
QJ71E71-B5, QJ71E71-B2, QJ71E71-100, QJ71E71	Max. 4
QJ61BT11N, QJ61BT11	Max. 4
Modules other than above	Max. 64

(c) Modules with restrictions

Model	Restrictions
QJ71E71-B5, QJ71E71-B2, QJ71E71-100, QJ71E71	• Only the function version B or later can be used. • The e-mail function is not supported.

(6) Units/modules not applicable

The following units/modules cannot be used on the MELSECNET/H (MELSECNET/10 mode) remote I/O station.

Module/Unit	Model
Redundant type extension base unit	Q65WRB
A/AnS series extension base unit	QA1S65B, QA1S68B, QA65B, QA68B
CC-Link IE Controller Network module	QJ71GP21-SX, QJ71GP21S-SX
CC-Link IE Field Network master/local module	QJ71GF11-T2
MELSECNET/H network module	QJ71LP21, QJ71LP21GE, QJ71LP21-25, QJ71LP21S-25, QJ71LP21G, QJ71BR11, QJ71NT11B
Web server module	QJ71WS96
MES interface module	QJ71MES96
AS-i master module	QJ71AS92
High speed data logger module	QD81DL96
Interrupt module	QI60, QX40H*1, QX70H*1, QX80H*1, QX90H*1

*1 These modules cannot be used when switched to interrupt modules by turning off the function selecting switch (SW2).

(7) ERR. contact of power supply module

The operation of the ERR. contact of a power supply module differs depending on the combination with the base unit used. For the operation of the ERR. contact, refer to the following.

QCPU User's Manual (Hardware Design, Maintenance and Inspection)

(8) Online module change

In the following cases, the online module change cannot be performed.

- When an extension base unit (type requiring no power supply module) (Q52B, Q55B, Q55BL, Q55BLS, or Q55BLS-D) is used (No module mounted on any extension base unit can be changed online.)
- When a slim type power supply module (Q61SP) is used

(9) Precautions for mounting intelligent function modules

(a) Intelligent function module parameter

When the MELSECNET/H remote I/O module is used in MELSECNET/10 mode, there are some restrictions on the intelligent function module parameter setting.

- Up to 512 initial setting parameters can be set. If the number of parameters set exceeds the limit, the MELSECNET/H remote I/O module detects "SP.PARA ERROR" (error code: 3301).
- The auto refresh function is not supported. Access the buffer memory using the ZNFR and ZNTO instructions.

(b) Network parameter

The CC-Link refresh parameter is not supported. Access the buffer memory using the ZNFR and ZNTO instructions.

CHAPTER 3 SPECIFICATIONS

This chapter describes the performance specifications and functions of the network system.
For general specifications, refer to the user's manual for the CPU module used.

3.1 Performance Specifications

The following table lists the performance specifications of the MELSECNET/H remote I/O module when it is used in MELSECNET/10 mode.

Item		Optical loop system			Coaxial bus system
		QJ72LP25-25	QJ72LP25G	QJ72LP25GE	QJ72BR15
Maximum number of link points per network	LX/LY	8192 points			
	LB	8192 points			
	LW	8192 points			
Maximum number of link points per station		Remote master station → Remote I/O station ((LY + LB) ÷ 8 + (2 × LW)) ≤ 1600 bytes[*1] Remote I/O station → Remote master station ((LY + LB) ÷ 8 + (2 × LW)) ≤ 1600 bytes Multiplexed remote master station ↔ Multiplexed remote sub-master station ((LY + LB) ÷ 8 + (2 × LW)) ≤ 2000 bytes			
Maximum number of I/O points per remote I/O station		X + Y ≤ 4096 points When the numbers of X and Y are overlapped, the number of either X or Y is used for the above formula.			
Number of device points per remote I/O station	M	8192 points			
	SM	2048 points			
	D	12288 points			
	SD	2048 points			
Communication speed		10Mbps (20Mbps equivalent in multiplex transmission)			10Mbps
Number of connected stations per network		65 stations (Remote master station: 1, remote I/O station: 64)[*2]			33 stations (Remote master station: 1, remote I/O station: 32)[*3]
Overall cable distance		30km			3C-2V: 300m 5C-2V: 500m 5C-FB: 500m Can be extended by 2.5km when the repeater module (A6BR10 or A6BR10-DC) is used.
Station-to-station distance	At 10Mbps	SI optical cable: 500m H-PCF optical cable: 1km Broadband H-PCF optical cable: 1km QSI optical cable: 1km	GI-50/125 optical cable: 2km	GI-62.5/125 optical cable: 2km	3C-2V: 300m[*4] 5C-2V: 500m[*4] 5C-FB: 500m[*4]
Connection cable		Optical fiber cable (obtained by user)[*5]			Coaxial cable (obtained by user)
Applicable connector		Two-core optical connector plug (obtained by user) F06/F08 or equivalent (JIS C5975/5977 compliant)			Connector plug for 3C-2V Connector plug for 5C-2V Connector plug for 5C-FB (obtained by user)

Item		Optical loop system			Coaxial bus system
		QJ72LP25-25	QJ72LP25G	QJ72LP25GE	QJ72BR15
Max. number of networks		239			
Network topology		Duplex loop			Single layer bus
Communication method		Token ring			Token bus
Synchronization method		Frame synchronization method			
Encoding method		NRZI (Non Return to Zero Inverted) code			Manchester code
Transmission format		HDCL standards (frame format)			
Error control system		CRC ($X^{16} + X^{12} + X^5 + 1$) and retry caused by timeout			
RAS function		• Loopback function to be executed upon error detection or cable disconnection (optical loop system only) • Station cutoff function to be executed upon error detection or cable disconnection (coaxial bus system only) • Diagnostic function that checks the link line of the host station • Error detection with the link special relay and link special register • Redundant power supply for a remote I/O station • Online module change on a remote I/O station			
Application function		Remote password for a remote I/O station			
Transient transmission		• 1: 1 communication (such as monitoring and program upload or download) • ZNFR instruction, ZNTO instruction, JP/GP.ZNFR instruction, JP/GP.ZNTO instruction			
Internal current consumption (5VDC)		0.89A			1.10A
External dimensions	H	98mm			
	W	27.4mm			
	D	90mm			
Weight		0.15kg			0.16kg

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

*2 Use one of 64 remote I/O stations as a multiplexed remote sub-master station in the multiplexed remote I/O network.

*3 Use one of 32 remote I/O stations as a multiplexed remote sub-master station in the multiplexed remote I/O network.

*4 When the coaxial bus system is used, the cable length between stations is limited depending on the number of connected stations.

(Reference manual for the MELSECNET/10 network system used)

*5 SI optical fiber cables (former type: A-2P-□) take different station-to-station distances according to the type (L or H type).

(Reference manual for the MELSECNET/10 network system used)

3.2 Function List

3.2.1 Function list of the MELSECNET/10 remote I/O network

The following table lists availability of each function of the MELSECNET/10 remote I/O network on the MELSECNET/H (MELSECNET/10 mode) remote I/O station.
For details on the functions, refer to the following.

Reference manual for the MELSECNET/10 network system used

○: Supported on both the MELSECNET/H (MELSECNET/10 mode) remote I/O station and the MELSECNET/10 remote I/O station

△: Supported on the MELSECNET/H (MELSECNET/10 mode) remote I/O station, although some specifications differ from the MELSECNET/10 remote I/O station

×: Not supported on the MELSECNET/H (MELSECNET/10 mode) remote I/O station

Function			Description	Availability
Basic function	Cyclic transmission function	Communications with I/O modules	Enables communications with I/O modules using the LX/LY devices.	○
		Communications with special function modules	Enables communications with special function modules using the LX/LY and LB/LW devices.	○
		Stopping/restarting cyclic transmission	Stops or restarts cyclic transmission by performing a network test using a peripheral. <Difference in comparison with the MELSECNET/10 remote I/O station> This function is performed using GX Developer on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. For details, refer to the following. Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/O network)	△
		Direct access to link devices	Reads/writes link devices directly from/to a sequence program regardless of the link refresh status of the CPU module. Link devices not set in the link refresh range in network refresh parameter can be also read/written.	○
		Default of the network refresh parameter	Reduces the number of network refresh parameters set using a peripheral to a minimum by setting its default values automatically in the CPU module.	○

Function				Description	Availability
Basic function	RAS function	Output status setting on remote I/O stations at system failure due to a master station error		Holds or resets the outputs of remote I/O stations when the CPU module of the remote master station is down. <Difference in comparison with the MELSECNET/10 remote I/O station> The output status at error is set in PLC parameter for the MELSECNET/H (MELSECNET/10 mode) remote I/O station using GX Developer. For details, refer to Page 49, Section 5.1.	△
		Automatic return function		Automatically reconnects a disconnected station in the data link after the error is cleared and the station is back to normal.	○
		Loopback function (optical loop system)		Switches the transmission path when an error occurs in a transmission path to cut off the error point, and continues transmission between the normal stations.	○
		Station cutoff function (coaxial bus system)		Continues communications between other normal stations even when a connected station is powered off.	○
		Transient transmission enabled even at CPU module error		Enables the network modules to continue transient transmission even if an error which stops the operation of the CPU module while the system is in operation occurs.	○
		Offline test	Hardware test	Checks the internal components of a network module. <Difference in comparison with the MELSECNET/10 remote I/O station> The following points differ on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. • The number set with the mode setting switch • Error details check methods: using GX Developer or in the link special register (SW00AC, SW00AD) For details, refer to Page 42, Section 4.3.3.	△
			Self-loopback test	Checks the internal circuits including the send/receive circuits of a network module together with the connected cable. <Difference in comparison with the MELSECNET/10 remote I/O station> The following points differ on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. • The number set with the mode setting switch • Error details check methods: using GX Developer or in the link special register (SW00AC, SW00AD) For details, refer to Page 40, Section 4.3.1.	△

Function				Description	Availability
Basic function	RAS function	Offline test	Internal self-loopback test	Checks the internal circuits including the send/receive circuits of the transmission system of a network module. <Difference in comparison with the MELSECNET/10 remote I/O station> The following points differ on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. • The number set with the mode setting switch • Error details check methods: using GX Developer or in the link special register (SW00AC, SW00AD) For details, refer to Page 41, Section 4.3.2.	△
			Station-to-station test	Checks the line status of two adjacent stations. This function is not supported on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. Perform the forward/reverse loop test from the remote master station or the MELSECNET/10 remote I/O station instead of this test.	×
			Forward/reverse loop test	Checks the wiring status of the forward loop and reverse loop after all stations are connected to the system. This function is not supported on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. Perform the test from the remote master station or the MELSECNET/10 remote I/O station.	×
		Online diagnostics	Loop test	Checks the line status (forward loop or reverse loop) after all stations are connected to the optical loop system. <Difference in comparison with the MELSECNET/10 remote I/O station> This function is performed using GX Developer on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. For details, refer to Page 44, Section 4.4.1.	△
			Setup confirmation test	Checks the switch setting of a network module. <Difference in comparison with the MELSECNET/10 remote I/O station> This function is performed using GX Developer on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. For details, refer to Page 45, Section 4.4.2.	△
			Station order check test	Checks the order of connected stations in the optical loop system. <Difference in comparison with the MELSECNET/10 remote I/O station> This function is performed using GX Developer on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. For details, refer to Page 46, Section 4.4.3.	△
			Communication test	Checks whether transient transmission is normally performed. <Difference in comparison with the MELSECNET/10 remote I/O station> This function is performed using GX Developer on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. For details, refer to Page 47, Section 4.4.4.	△

Function				Description	Availability
Basic function	RAS function	Network monitor	Host information	Checks the information of an entire network and the status of the host station. <Difference in comparison with the MELSECNET/10 remote I/O station> This function is performed using GX Developer on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. For details, refer to Page 75, Section 7.2.1.	△
			Other station information	Checks the status of communications, data link, parameters, CPU modules, and loops of other stations (including reserved stations). <Difference in comparison with the MELSECNET/10 remote I/O station> The following points differ on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. • When monitoring from a peripheral, GX Developer shall be used. • The parameter status of each station cannot be monitored. Monitor them from the remote master station. For details, refer to Page 77, Section 7.2.2.	△
			Network monitor details	Checks the status of the network line connected to a peripheral, data link, CPU module, and parameters. <Difference in comparison with the MELSECNET/10 remote I/O station> This function is performed using GX Developer on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. For details, refer to Page 78, Section 7.2.3.	△
			Error history monitor	Checks the history of forward/reverse loop errors, communication errors, and transient transmission errors. The details of the error history can be displayed and the error history can be cleared. <Difference in comparison with the MELSECNET/10 remote I/O station> This function is performed using GX Developer on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. For details, refer to Page 81, Section 7.2.4.	△
		Data link status detection function		Monitors the data link status using a peripheral. <Difference in comparison with the MELSECNET/10 remote I/O station> This function is performed using GX Developer on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. For details, refer to Page 77, Section 7.2.2.	△

Function			Description	Availability
Basic function	RAS function	Fuse blown error/I/O module verify error check disable function	Disables the detection of a fuse blown error or I/O module verification error by the remote I/O station. <Difference in comparison with the MELSECNET/10 remote I/O station> The disabled status can also be set in PLC parameter for the MELSECNET/H (MELSECNET/10 mode) remote I/O station using GX Developer. Note that, however, if the error clear (disabled) status is set on the remote master station, the module operates with the setting of the remote master station regardless of the setting on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. For details, refer to Page 49, Section 5.1.	△
Application function	Transient transmission function	Routing function	Enables transient transmission to a station with another network number in a multilevel system.	○
		Link dedicated instruction	A dedicated instruction (ZNFR, ZNTO, JP/GP.ZNFR, and JP/GP.ZNTO) to read/write data from/to the buffer memory of special function modules mounted on the remote I/O station from the remote master station	○
		Default network specification	Enables communications with the network that is set in parameter ("Valid module during other station access") by specifying "254 ($00FE_H$)" for the network number of the access-target special function module.	○
		Clock setting of stations in a network	Sets clock data (date and time) to stations in a network using a peripheral. Clock data shall be set to the CPU module on the remote master station. (Only the QnA corresponding MELSECNET/10 network module supports this function.) The clock data set in the CPU module is transferred to remote I/O stations.	○
	Multiplex transmission function (optical loop system)		Enables high-speed communications using a duplex transmission path (forward loop and reverse loop) of the optical loop system.	○
	Number of return stations setting		Sets the number of communication error stations that can go back to the data link within one link scan.	○
	Reserved station function		Treats a station that will be connected in the future as a reserved station, not as a communication error station. (The station is included in the total number of connected stations, but actually not connected.)	○
	I/O assignment		Assigns I/O points to I/O modules and special function modules mounted on the remote I/O station. <Difference in comparison with the MELSECNET/10 remote I/O station> I/O points can also be set in PLC parameter for the MELSECNET/H (MELSECNET/10 mode) remote I/O station using GX Developer. Note that, however, if I/O points are assigned to the remote master station, the module operates with the assignment set to the remote master station regardless of the setting on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. For details, refer to Page 49, Section 5.1.	△

Function			Description	Availability
Application function	Multiple master system	Simplex network	The multiplexed remote master function for simplex network	○
		Duplex network	The multiplexed remote master function for duplex network	○
	Parallel master system		A system that allows the parallel remote master station and parallel remote sub-master station to control each remote I/O station separately. (Only the QnA corresponding MELSECNET/10 network module supports this function.) Since this system is not supported on the MELSECNET/H (MELSECNET/10 mode) remote I/O station, the system needs to be separated.	×
	Constant link scan		Prevents the change of the link scan time caused by the transient transmission function or noise, and keeps the link scan time constant.	○
	Number of ZNFR/ZNTO accesses setting function		Sets the number of modules to which a remote I/O station can execute instructions in one scan.	○

3.2.2 Function list of the MELSECNET/H remote I/O module

The following table lists availability of each function of the MELSECNET/H remote I/O module when it is used in MELSECNET/10 mode.

For details on the functions, refer to the following.

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

○: Supported in MELSECNET/10 mode

×: Not supported in MELSECNET/10 mode

Function			Description	Availability
Basic function	Cyclic transmission function (periodic communication)	Communications with I/O modules	Enables communications with I/O modules using the LX/LY devices.	○
		Communications with intelligent function modules	Refreshes the data in intelligent function modules into the devices of the MELSECNET/H remote I/O module.	○*1
	RAS function	Output reset function for communication error	Turns off all outputs of the MELSECNET/H remote I/O station when a data link error occurs.	○
		Hardware error time CPU operation mode setting	Determines whether the operation of the MELSECNET/H remote I/O station stops or continues when a hardware error occurs in an intelligent function module mounted on the MELSECNET/H remote I/O station.	○
		Diagnostic function	Checks the status of network lines and module settings.	○
		Redundant power supply on a remote I/O station	Configures a redundant power supply system by mounting two power supply modules on a redundant power supply base unit.	○
		Online module change on a remote I/O station	Changes the MELSEC-Q series modules mounted on the main base unit or extension base units of the MELSECNET/H remote I/O station during online.	○
Application function	Transient transmission function (non-periodic communication)	Intelligent function module buffer memory read/write (REMFR/REMTO)	Dedicated instructions to read/write data from/to the buffer memory of intelligent function modules mounted on the MELSECNET/H remote I/O station. Use the ZNFR and ZNTO instructions to access intelligent function modules on the MELSECNET/H (MELSECNET/10 mode) remote I/O station as well as the MELSECNET/10 remote I/O network. (Reference manual for the MELSECNET/10 network system used)	×
	Remote I/O station system monitor		Performs a system monitor on intelligent function modules mounted on the MELSECNET/H remote I/O station using GX Developer.	○*2
	Device test for a remote I/O station		Tests I/O devices in a sequence program without stopping the online system using GX Developer connected with the MELSECNET/H remote I/O station.	○
	I/O assignment		Assigns I/O points to I/O modules and intelligent function modules mounted on the MELSECNET/H remote I/O station.	○
	Remote password		Prevents unauthorized access to the MELSECNET/H remote I/O module and the CPU module by remote users.	○

*1 The following functions are not supported.
- Auto refresh function of intelligent function modules
- CC-Link refresh parameter
- Data transfer between devices

*2 The modules cannot be monitored via the remote master station.

3.2.3 Link data send/receive processing time

This section describes the link data send/receive processing time of the MELSECNET/H remote I/O module when it is used in MELSECNET/10 mode.

(1) Remote master station ↔ Remote I/O station

(a) Cyclic transmission (X/Y communication)

The same performance as that of the MELSECNET/10 remote I/O station is provided.
For details on the transmission delay time of the cyclic transmission (X/Y communication), refer to the following.

Reference manual for the MELSECNET/10 network system used

(b) ZNFR instruction, ZNTO instruction

The same performance as that of the MELSECNET/10 remote I/O station is provided.
For the transmission delay time of ZNFR instruction and ZNTO instruction, refer to the following.

Reference manual for the MELSECNET/10 network system used

(2) Refresh time between the MELSECNET/H remote I/O module and I/O modules

The same performance as that of the MELSECNET/H remote I/O station is provided.
For the refresh time between the MELSECNET/H remote I/O module and I/O modules, refer to the following.

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

(3) Link scan time

The same performance as that of the MELSECNET/10 remote I/O station is provided.
For the link scan time, refer to the following.

Reference manual for the MELSECNET/10 network system used

CHAPTER 4 SETTING AND PROCEDURE BEFORE OPERATION

This chapter describes the setting and procedure before operation.

4.1 Procedure Before Operation

The following is the procedure for replacing a MELSECNET/10 remote I/O station with a MELSECNET/H (MELSECNET/10 mode) remote I/O station.

Checking the system configuration

Check the configuration of the MELSECNET/10 remote I/O network.
If a coaxial loop system or parallel master system is configured, the system cannot be replaced.
Consider a different system configuration.

(☞ Page 19, Section 2.1)

▼

Checking the target station for the replacement

Check the system configuration of the MELSECNET/10 remote I/O station targeted for the replacement.

▼

Considering an installation location

Consider an installation location paying attention to the following points.
- Length of communication cables
- Length of power distribution lines
- Length of external wires

▼

Selecting modules used after the replacement

Select modules to be mounted on the MELSECNET/H (MELSECNET/10 mode) remote I/O station after the replacement.

Handbook for transition

▼

Checking the program

Modification of the sequence program may be required after the replacement.
Check the parts in the sequence program where modification is required.

(☞ Page 53, Section 6.1)

▼

Stopping the system

Stop the MELSECNET/10 remote I/O network and all relayed network systems including all external devices safely.

▼

Setting the station number of the MELSECNET/H remote I/O module

Set the station number with the station number setting switches on the MELSECNET/H remote I/O module.

(☞ Page 37, Section 4.2 (3))

▼

Replacing the remote I/O station

Replace the MELSECNET/10 remote I/O station with the MELSECNET/H (MELSECNET/10 mode) remote I/O station.

▼

Preparation before power-on

Move the RUN/STOP switch of the CPU module on the remote master station to the STOP position.
Check the wiring of the voltage input from power supply.

▼

Powering on

Power on the MELSECNET/H (MELSECNET/10 mode) remote I/O station.
Check that the POWER LED of the power supply module and the RUN LED of the MELSECNET/H remote I/O module are on.

▼

Performing unit tests

Perform the following unit tests on the MELSECNET/H remote I/O module.
- Self-loopback test
- Internal self-loopback test
- Hardware test

(☞ Page 40, Section 4.3.1)
(☞ Page 41, Section 4.3.2)
(☞ Page 42, Section 4.3.3)

▼

Setting the mode setting switch

Set the mode setting switch of the MELSECNET/H remote I/O module to “8”.

(☞ Page 37, Section 4.2 (4))

▼

Setting parameters of the MELSECNET/H (MELSECNET/10 mode) remote I/O station

Set parameters of the MELSECNET/H (MELSECNET/10 mode) remote I/O station as needed.
After setting parameters, write the parameters to the MELSECNET/H remote I/O module.
- PLC parameter
- Network parameter
- Intelligent function module parameter

(☞ Page 49, Section 5.1)

▼

Powering off

Power off the MELSECNET/H (MELSECNET/10 mode) remote I/O station.

▼

Connecting cables

Connect cables to the MELSECNET/H (MELSECNET/10 mode) remote I/O station.

Reference manual of the MELSECNET/10 network system used

Powering on the network

Power on the remote I/O station first and then the remote master station.

▼

Diagnosing the network

Connect a peripheral to the remote master station and perform the following network diagnostics.
- Loop test (optical loop system only)
- Setup confirmation test
- Station order check test (optical loop system only)
- Communication test

(☞ Page 44, Section 4.4.1)
(☞ Page 45, Section 4.4.2)
(☞ Page 46, Section 4.4.3)
(☞ Page 47, Section 4.4.4)

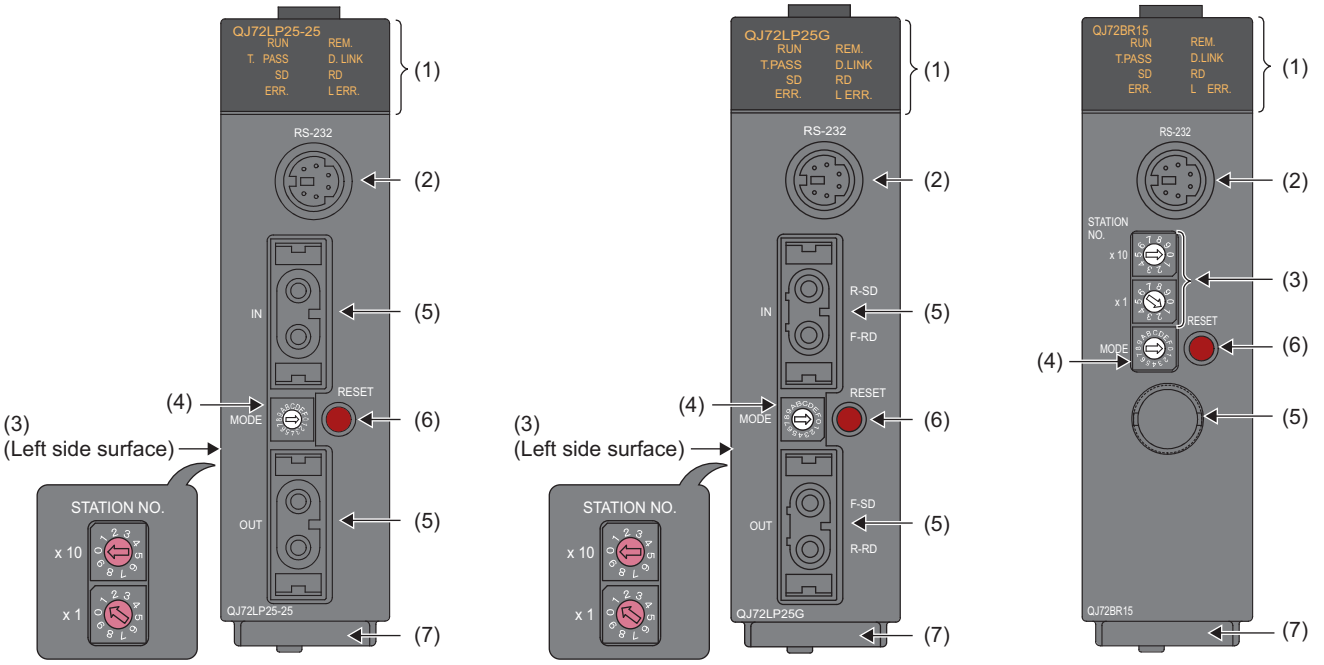
▼

Checking and modifying the program

Check the sequence program of the CPU module on the remote master station. Modify the program if necessary.

(☞ Page 53, Section 6.1)

4.2 Part Names and Settings



(1) LED indications

Name	LED status	Description
RUN	On (green)	Normal operation
	Off	Watchdog timer error (hardware failure)
REM.*1	On (green)	Normal operation
	Flashing (green)	Parameters being written to the flash ROM or forced input/output being registered
	Off	Being initialized remotely or error (watchdog timer error, fuse blown error, I/O module verify error, or other errors)
T.PASS	On (green)	In the baton pass status (The module is connected to the network.)
	Flashing (green)	Being tested (When the LED flashes 20 times or more (approx. 10 seconds), it means the end of the test.)
	Off	Not in the baton pass status (The host station has been disconnected from the network.)
D.LINK	On (green)	Data link being performed (Cyclic transmission is being performed.)
	Off	Data link not being performed (Parameters have not been received, an error has occurred in the CPU module of host station, a data link stop instruction has been issued, or others.)
SD	On (green)	Data being sent
	Off	Data not being sent
RD	On (green)	Data being received
	Off	Data not being received

Name	LED status	Description
ERR.*1	On (red)	• Station number setting error (other than 1 to 64), mode setting error (set to disabled), or operating condition setting error (in parameter) • A station with the same station number exists in the network. • Parameter data received from the remote master station has an error. • Watchdog timer error (The RUN LED is off.)
	Flashing	• An error is detected at the test operation of the MELSECNET/H remote I/O module. • The setting of the mode setting switch or station number setting switches has been changed during the operation.
	Off	Normal operation
L ERR.	On (red)	Watchdog timer error (The RUN LED is off.) Communication error (One of the following errors has been occurred.) • CRC This error occurs due to a fault in the cable or noise. • OVER This error occurs when the received data is erased before it is written to the internal memory because the next data is received. The possible error cause is a hardware failure at the receiver part of the MELSECNET/H remote I/O module. • AB.IF This error occurs when the number of the bits indicating "1" in the received data within a frame exceeds the limit or the received data length is shorter than that defined in the specifications. • TIME This error occurs when the baton pass is not handed to the host station within the monitoring time. • DATA This error occurs when the data with abnormal code is received. • UNDER This error occurs when the internal processing of send data is not performed at a fixed interval. • LOOP This error occurs when the forward loop or reverse loop line is faulty. The power of the adjacent station in the direction to the host station is off or the hardware failure exists on the send station. <Action> Check the connector for disconnection, looseness, and IN/OUT misconnection; and the cable for disconnection, crack, and routing. • For details, refer to the network diagnostics. (☞ Page 75, Section 7.2)
	Off	No communication error

*1 When the MELSECNET/H remote I/O module is used in a redundant power supply system, the cause of failure in the power supply module can be diagnosed with the status of the REM. LED and ERR. LED.

Power supply module	Cause of failure	REM. LED	ERR. LED
Failure of one module	Input power supply OFF, fuse blown	Off	On
	Internal failure	Off	On
		On	Off
Failure of both modules	Input power supply OFF, fuse blown	Off	Off
	Internal failure	Off	Off
		Off	On
		On	Off

The faulty power supply module can be identified in the corresponding error code. (☞ Page 93, Section 7.4.3)
Check the failure status of the power supply module with the LEDs of the module. When the power supply module is mounted on an extension base unit, the failure status can also be checked with the ERR. contact of the module.
(QCPU User's Manual (Hardware Design, Maintenance and Inspection))

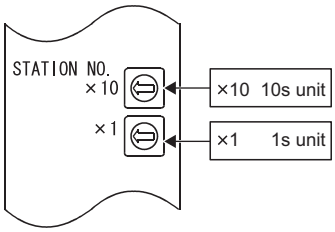
(2) RS-232 connector

A connector is connected with RS-232.

This connector can be connected with the RS-232 connection cable (QC30R2).

(3) Station number setting switches

Set a station number of the MELSECNET/H remote I/O module in a network. (Factory default: 1)



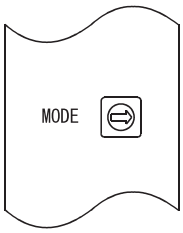
Setting	Description	LED indication
0	Setting error	The ERR.LED turns on (red).
1 to 64	Effective setting range (When the QJ72BR15 is used, the numbers from 33 to 64 cause a setting error.)	—
65 to 99	Setting error	The ERR.LED turns on (red).

Point

- Station numbers within a network must be unique.
- Station numbers do not need to be in order. When not setting a station number, set the station as a reserved station.

(4) Mode setting switch

Set the operation mode of the MELSECNET/H remote I/O module. (Factory default: 0)



• QJ72LP25-25

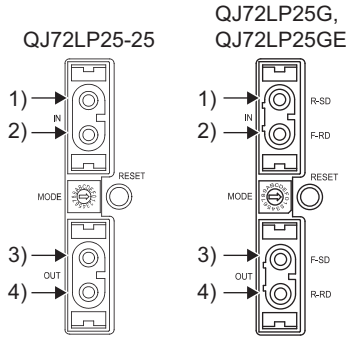
Setting	Description	
0	Online	Communication speed: 10Mbps
1	Self-loopback test	
2	Internal self-loopback test	
3	Hardware test	
4	Online	Communication speed: 25Mbps
5	Self-loopback test	
6	Internal self-loopback test	
7	Hardware test	
8	Online (MELSECNET/10 mode)	
9 to F	Use prohibited	

• QJ72LP25G, QJ72LP25GE, QJ72BR15

Setting	Description
0	Online
1	Self-loopback test
2	Internal self-loopback test
3	Hardware test
4 to 7	Use prohibited
8	Online (MELSECNET/10 mode)
9 to F	Use prohibited

(5) Connectors

• QJ72LP25-25, QJ72LP25G, QJ72LP25GE: IN connector, OUT connector
Connect an optical fiber cable connector.



1) IN: Reverse loop sending
2) IN: Forward loop receiving
3) OUT: Forward loop sending
4) OUT: Reverse loop receiving

• QJ72BR15: Coaxial connector
Connect an F-type connector for coaxial cables.

(6) RESET switch

Reset the MELSECNET/H (MELSECNET/10 mode) remote I/O station. Press the switch for one second or longer to reset. If not, the modules on the station cannot be reset normally. If the modules have not been reset normally, perform the reset operation again.

(7) Serial number display

The serial number on the rating plate is displayed.

4.3 Unit Tests of the MELSECNET/H Remote I/O Module (Offline Test)

The MELSECNET/H remote I/O module and the connected cable shall be tested before performing the data link. Select the test item with the mode setting switch on the front of the MELSECNET/H remote I/O module. The following three items are provided for the offline test.

(1) Self-loopback test (Mode setting switch: 1)

This test checks the internal circuits including the send/receive circuits of the MELSECNET/H remote I/O module together with the connected cable.

(2) Internal self-loopback test (Mode setting switch: 2)

This test checks the internal circuits including the send/receive circuits of the MELSECNET/H remote I/O module.

(3) Hardware test (Mode setting switch: 3)

This test checks the internal components of the MELSECNET/H remote I/O module.

Point

- If the test completes with an error, the possible cause is a hardware failure of the MELSECNET/H remote I/O module. Please consult your local Mitsubishi representative.
- The station-to-station test is not supported on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. Perform the forward/reverse loop test from the remote master station or the MELSECNET/10 remote I/O station.

Remark

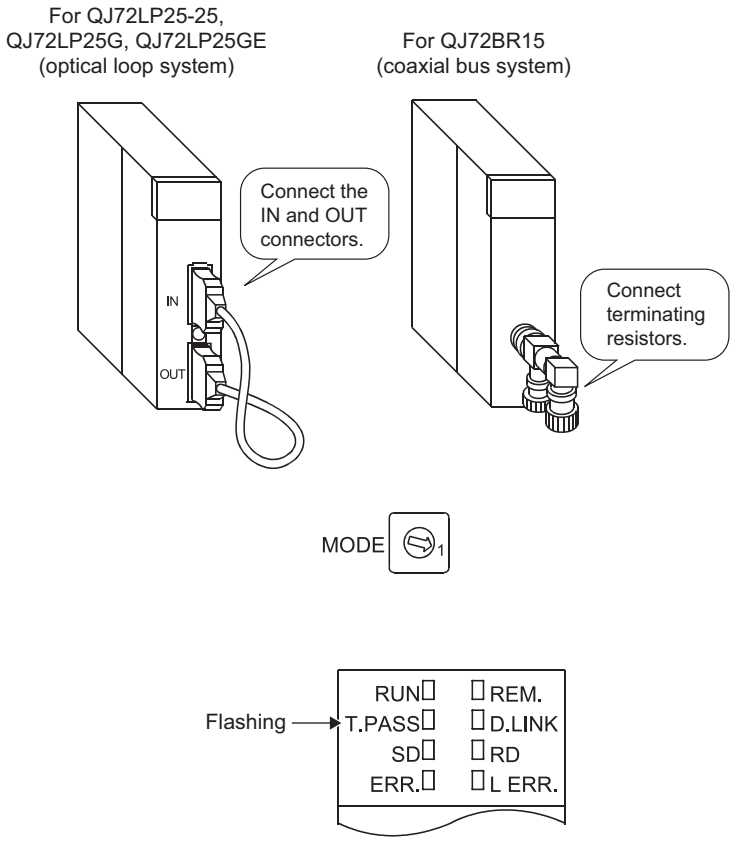
If even one station is set to the test mode (offline, mode setting switch 1 to 3) during the data link (online), the normal data link cannot be maintained.

4.3.1 Self-loopback test

This test checks the internal circuits including the send/receive circuits of the MELSECNET/H remote I/O module together with the connected cable.

Point

Always connect a cable or terminating resistors when performing the self-loopback test. In addition, do not connect or disconnect the cable or terminating resistors during the test. (The test completes with an error.)



1. **For the QJ72LP25-25, QJ72LP25G, and QJ72LP25GE, connect the IN connector and OUT connector by an optical fiber cable.**
For the QJ72BR15, connect terminating resistors to both connectors of the F-type connector.

2. **Set the mode setting switch on the MELSECNET/H remote I/O module to "1".**

3. **Power on the target module. The self-loopback test starts and the T.PASS LED flashes.**

4. **The test is completed normally when the T.PASS LED flashes 20 or more times (approx. 10 seconds) and the ERR. LED does not flash. When the test completes with an error, the ERR. LED flashes.**

If an error occurs, perform the following.

- For the QJ72LP25-25, QJ72LP25G, QJ72LP25GE replace the cable and perform the test again.
- For the QJ72BR15, replace the terminating resistors and perform the test again.

When the test completes with an error again, the possible cause is a hardware failure of the MELSECNET/H remote I/O module. Please consult your local Mitsubishi representative.

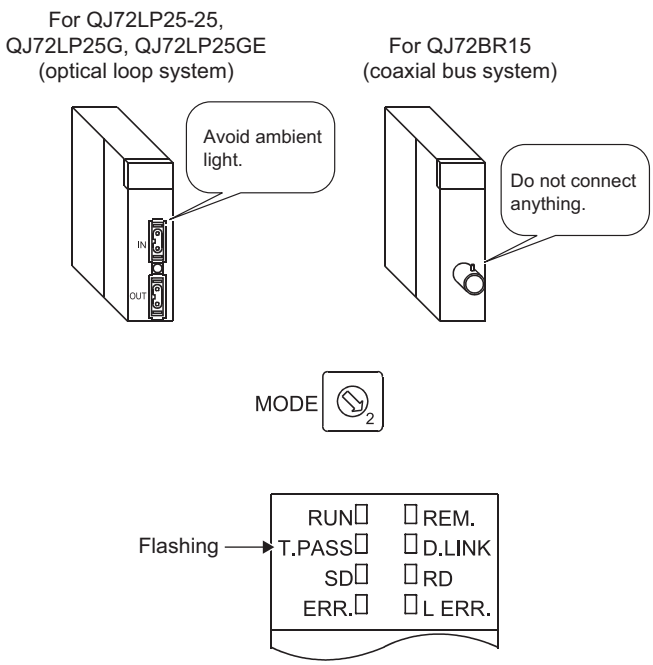
Remark

Check the test condition and error details with the following link special register areas.

- Baton pass status (host) (SW0047) → $1F_H$: Offline test
- Cause of baton pass interruption (SW0048) → 2_H: Offline test
- Offline test execution item/faulty station (requesting side) (SW00AC) → 7_H: Self-loopback test
- Offline test result (requesting side) (SW00AD) → 0: Normal, 1 and later: Error code

4.3.2 Internal self-loopback test

This test checks the internal circuits including the send/receive circuits of the MELSECNET/H remote I/O module



1. **Do not connect an optical fiber cable for the QJ72LP25-25, QJ72LP25G. and QJ72LP25GE Prevent ambient light from entering the connector.**
   Do not connect a cable or terminating resistor to the QJ72BR15.
2. **Set the mode setting switch on the MELSECNET/H remote I/O module to "2".**
3. **Power on the target module.**
   The internal self-loopback test starts and the T.PASS LED flashes.
4. **The test is completed normally when the T.PASS LED flashes 20 or more times (approx. 10 seconds) and the ERR. LED does not flash.**
   When the test completes with an error, the ERR. LED flashes.

When the test completes with an error, the possible cause is a hardware failure of the MELSECNET/H remote I/O module. Please consult your local Mitsubishi representative.

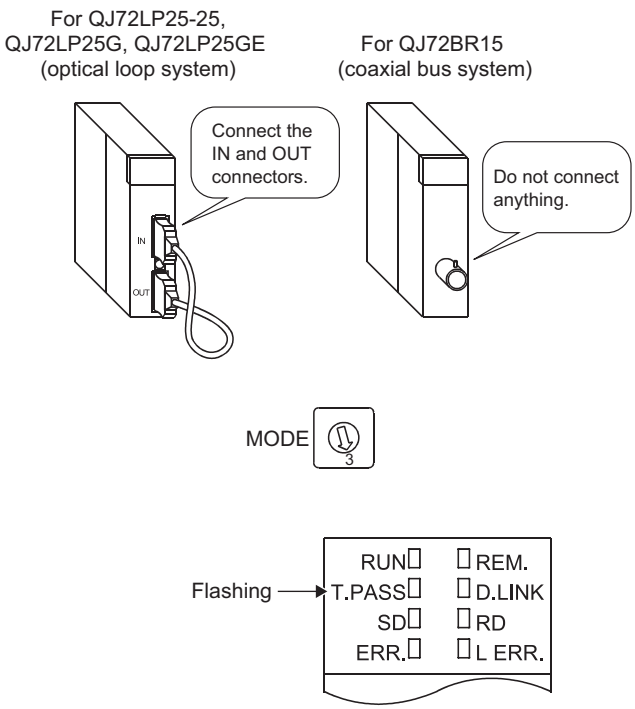
Remark

Check the test condition and error details with the following link special register areas.

- Baton pass status (host) (SW0047) → $1F_H$: Offline test
- Cause of baton pass interruption (SW0048) → 2_H: Offline test
- Offline test execution item/faulty station (requesting side) (SW00AC) → 8_H: Internal self-loopback test
- Offline test result (requesting side) (SW00AD) → 0: Normal, 1 and later: Error code

4.3.3 Hardware test

This test checks the internal components of the MELSECNET/H remote I/O module.



1. **For the QJ72LP25-25, QJ72LP25G, and QJ72LP25GE connect the IN connector and OUT connector by an optical fiber cable.**
Do not connect a cable or terminating resistor to the QJ72BR15.

2. **Set the mode setting switch on the MELSECNET/H remote I/O module to "3".**

3. **Power on the target module.**
The hardware test starts and the T.PASS LED flashes.

4. **The test is completed normally when the T.PASS LED flashes 20 or more times (approx. 10 seconds) and the ERR. LED does not flash.**
When the test completes with an error, the ERR. LED flashes.

When the test completes with an error, the possible cause is a hardware failure of the MELSECNET/H remote I/O module. Please consult your local Mitsubishi representative.

Remark

Check the test condition and error details with the following link special register areas.

- Baton pass status (host) (SW0047) → $1F_H$: Offline test
- Cause of baton pass interruption (SW0048) → 2_H: Offline test
- Offline test execution item/faulty station (requesting side) (SW00AC) → 9_H: Hardware test
- Offline test result (requesting side) (SW00AD) → 0: Normal, 1 and later: Error code

4.4 Network Diagnostics (Online Test)

The network diagnostic function enables easy check and diagnostics of the line status. To execute this function, the network parameters must be set to the remote master station.
To execute the network diagnostic function from the MELSECNET/H (MELSECNET/10 mode) remote I/O station, use GX Developer or GX Works2. (GPPA and GPPQ cannot be used.)
The following table lists the tests that can be executed in each system.

○: Executable ×: Not executable

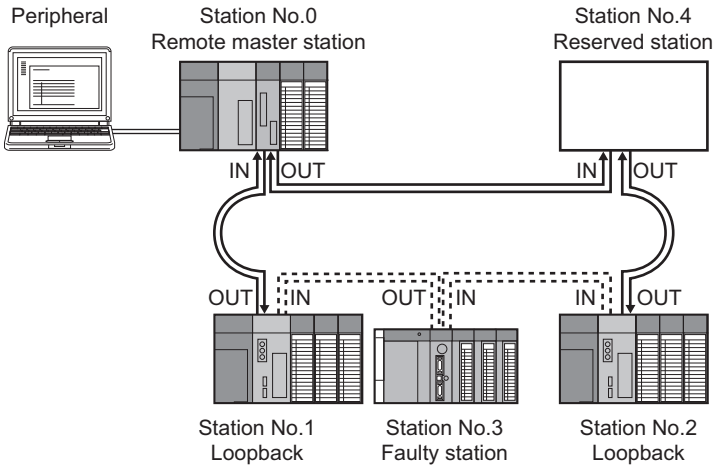
Test item	Optical loop system	Coaxial bus system	Data link status (cyclic transmission and transient transmission)
Loop test	○	×	Interrupted temporarily
Setup confirmation test	○	○	Interrupted temporarily
Station order check test	○	×	Interrupted temporarily
Communication test	○	○	Continued

Point

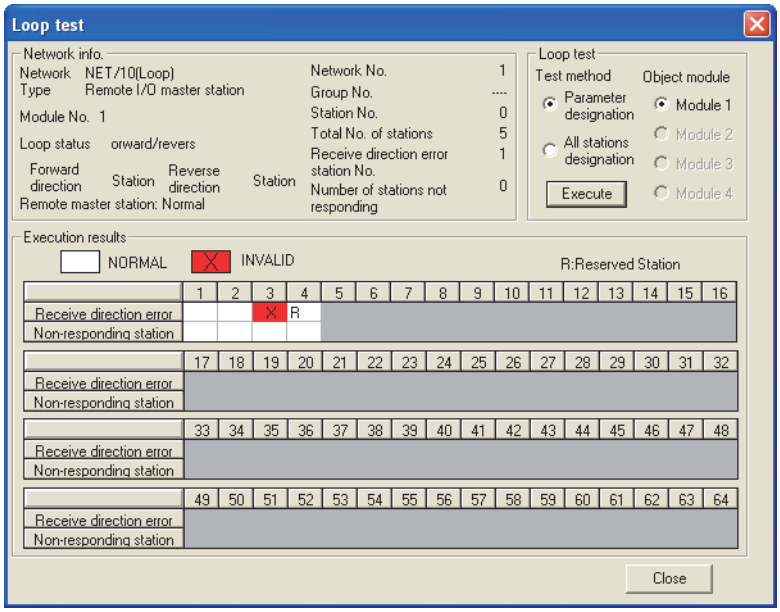
- Perform the network diagnostics that requires a temporarily interruption of the data link at system start-up.
  When performing the diagnostics during the system operation, check that the following conditions are met.
  - No problem occurs even when the data link stops due to the diagnostics.
  - Reset of any station or operating status change (RUN/STOP) or any CPU module is not required. (The change may cause an error completion of the diagnostics.)
- Perform the setup confirmation test, station order check test, and communication test after checking that the line status is normal by the loop test.

4.4.1 Loop test (optical loop system only)

This test checks the line status (forward loop or reverse loop) after all stations are connected to the optical loop system.



When the loop test is performed using a peripheral connected to the remote master station in the system above, where IN connector and OUT connector of the station number 3 are connected inversely, the following window appears. The station number 3 is detected as a receive direction faulty station.

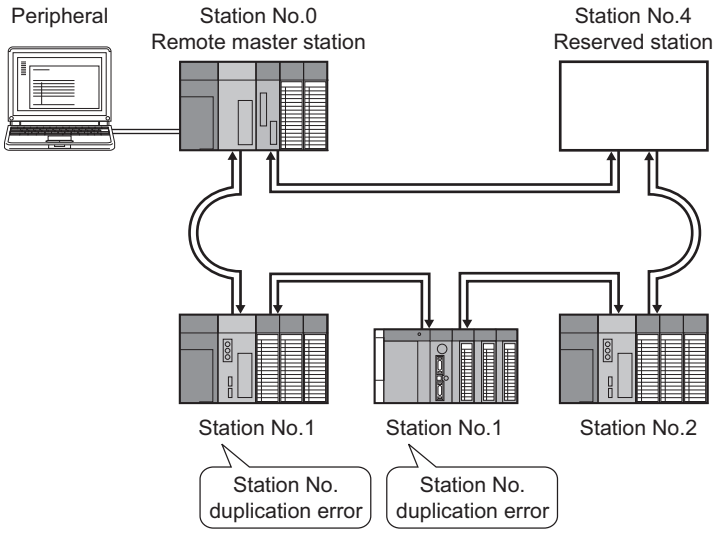


Point

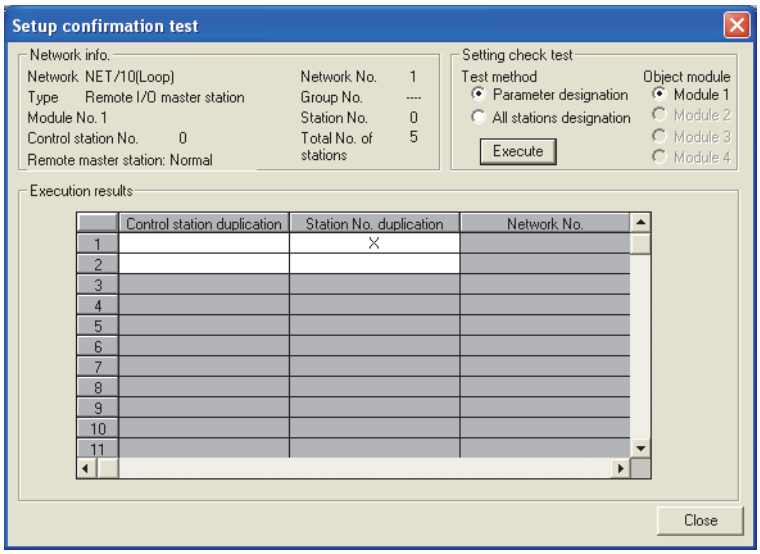
- In the loop test, the wiring status is checked after the data link has been stopped.
  To check the wiring status without stopping the data link, use SW009C to SW009F of the MELSECNET/H (MELSECNET/10 mode) remote I/O station.
  (Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/O network))
- During the loopback, stations where the loopback is being performed can be checked in the "Loop status of each station" window opened from the "Other station information" window. (Page 77, Section 7.2.2)

4.4.2 Setup confirmation test

This test checks the switch setting of a network module.
The station number overlap status can be checked.



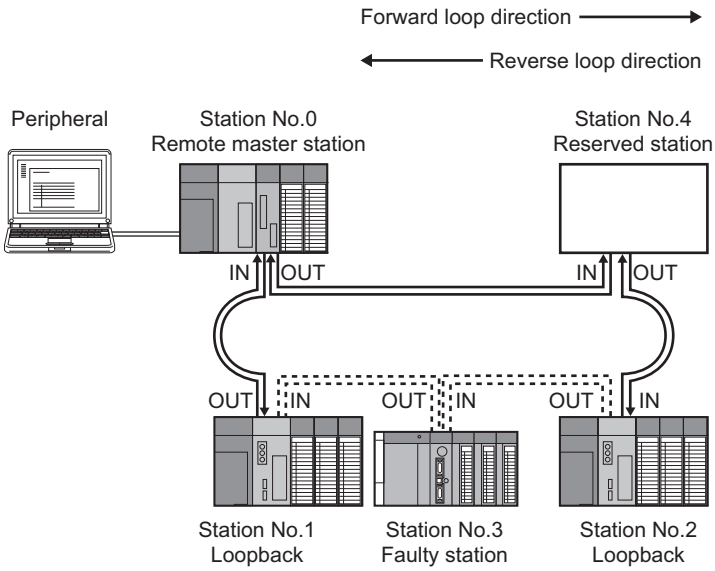
When the setup confirmation test is performed using a peripheral connected to the remote master station in the system above, the following window appears. The result shows that the station number 1 has a station No. duplication error.



4.4.3 Station order check test (optical loop system only)

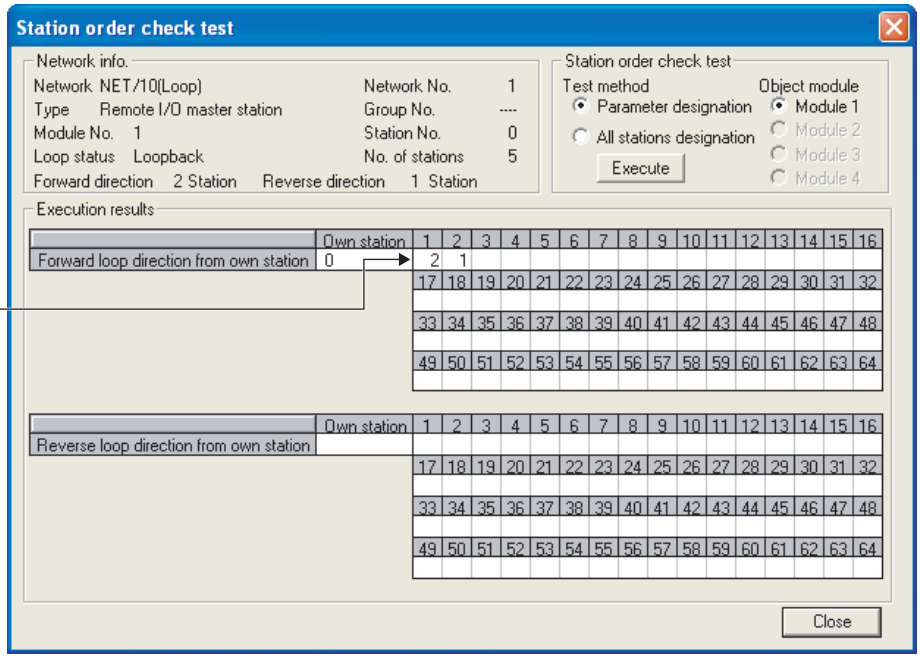
This test checks the order of connected stations in the optical loop system.
The following table lists the correspondence between the loop status and the order of stations that can be checked in the test.

Loop status	Display contents
Forward/reverse loop	The station numbers connected in the forward loop direction from the host station and the station numbers connected in the reverse loop direction from the host station
Forward loop	Only the station numbers connected in the forward loop direction from the host station
Reverse loop	Only the station numbers connected in the reverse loop direction from the host station
Loopback	Only the station numbers connected in the forward loop direction from the host station



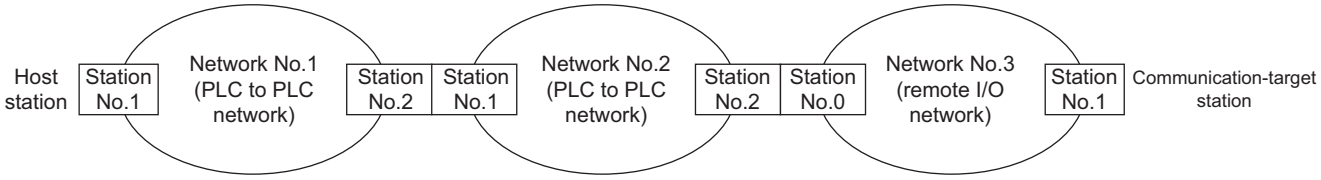
When the station order check test is performed using a peripheral connected to the remote master station in the system above, the following window appears. The result shows that the loopback is performed in the stations, the station number 2 and 1, connected in the forward loop direction.

The station No.4 is not displayed because it is a reserved station.

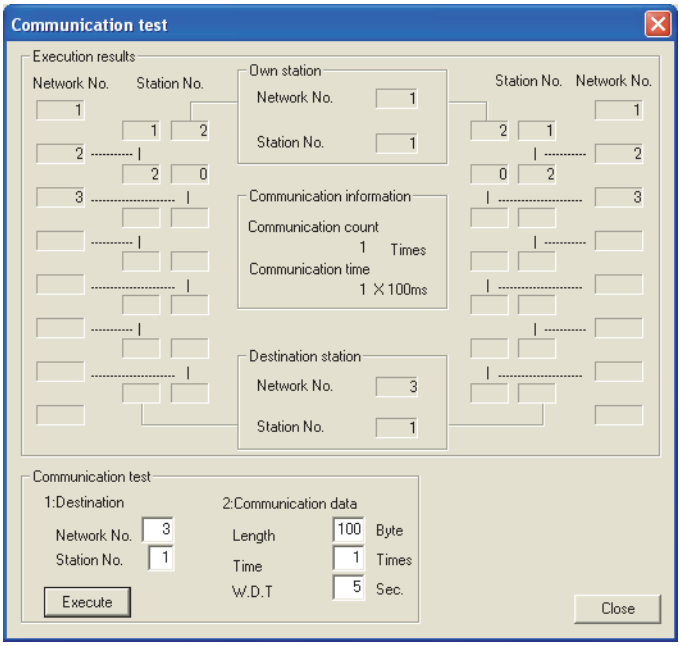


4.4.4 Communication test

This test checks whether communications is normally performed between a test-executing station and a communication-target station (specified with the network number and station number).
If the communication-target station is in another network, the relay network number and station number are displayed and the routing parameter settings can be checked.



When the communication test is performed from a peripheral connected to the station number 1 in network number 1 to the station number 1 in network number 3 in the system above, the following window appears. The result shows that communications between two stations is normal.



The following table lists the availability of the communication test for each station. The communication test cannot be performed between MELSECNET/H (MELSECNET/10 mode) remote I/O stations.

(1) In the same network

○: Supported ×: Not supported

Host station	Remote master station	MELSECNET/H (MELSECNET/10 mode) remote I/O station
Destination station	**MELSECNET/H (MELSECNET/10 mode) remote I/O station**	**Remote master station**
GPPA	○*1	×
GPPQ	○*2	×
GX Developer	○	○
GX Works2	×	○*3

*1 Supported only on the remote master station where the AnUCPU or AnUSCPU is mounted.
*2 Supported only on the remote master station where the QnACPU or QnASCPU is mounted.
*3 Supported only when the communication-target network module is compatible with the QnA series.

(2) In another network

○: Supported ×: Not supported

Host station	Remote master station	Control station/ normal station	MELSECNET/H (MELSECNET/10 mode) remote I/O station	
Destination station	**MELSECNET/H (MELSECNET/10 mode) remote I/O station**		**Remote master station**	**Control station/ normal station**
GPPA	○*1	○*1	×	×
GPPQ	○*2	○*2	×	×
GX Developer	○	○	○	○
GX Works2	×	×	○*3	○*3

*1 Supported only on the remote master station, control station, or normal station where the AnUCPU or AnUSCPU is mounted.
*2 Supported only on the remote master station, control station, or normal station where the QnACPU or QnASCPU is mounted.
*3 Supported only when the communication-target network module is compatible with the MELSECNET/10 QnA series.

CHAPTER 5 PARAMETER SETTING

To operate MELSECNET/10 remote I/O network, network parameters must be set to the CPU module on the remote master station using a peripheral.
For the parameter setting for the MELSECNET/10 remote master module, refer to the following.
Reference manual for the MELSECNET/10 network system used

5.1 Parameter Setting for Remote I/O Stations

This section describes parameters set to the MELSECNET/H (MELSECNET/10 mode) remote I/O station.
To use the MELSEC-Q series functions on the MELSECNET/H (MELSECNET/10 mode) remote I/O station, set parameters to the MELSECNET/H remote I/O module.
To use the MELSECNET/H (MELSECNET/10 mode) remote I/O station as a remote I/O station equivalent to that for the MELSEC-A/QnA series, set only intelligent function module switch parameters.

Point

The set parameters are enabled when one of the following is performed.
- Reset the MELSECNET/H remote I/O module.
- Power off and on the MELSECNET/H remote I/O module.
- When the parameters of the remote I/O station are corrected and the remote I/O station has not been reset: Reset the CPU module on the remote master station, switch the status of the CPU module from STOP to RUN, or power off and on the programmable controller.
- When a stop error exists on the remote I/O station: Reset the CPU module on the remote master station, switch the status of the CPU module from STOP to RUN, or power off and on the programmable controller.

(1) PLC parameter

The PLC parameter can be set to the MELSECNET/H remote I/O module as well as being set to the CPU module. The following table lists the setting availability on the MELSECNET/H (MELSECNET/10 mode) remote I/O station.
For details on the "PLC system", "PLC RAS", and "I/O assignment" parameter settings, refer to the following.
GX Developer Version 8 Operating Manual

Category	Item		Default	Availability
PLC system	Module synchronization	Synchronize intelligent function module's pulse up	Selected	Available
	Points occupied by empty slot	Points occupied by empty slot	16 points	Available
PLC RAS (Page 50, Section 5.1 (1) (a))	Error check	Carry out fuse blown check	Selected	Available*1
		Verify module	Selected	Available*1
	Operating mode when there is an error	Fuse blown	Stop	Available
		Module verify error	Stop	Available
Operational settings	Remote I/O switch setting	Remote I/O switch setting (For future expansion)	—	N/A
	Assignment method	Points/Start	Start/End	N/A*2
		Start/End		N/A*2
	Forwarding parameter between devices	Device name	Blank	N/A*3
		Points		N/A*3
		Start		N/A*3
		End		N/A*3

Category	Item			Default	Availability
I/O assignment (☞ Page 50, Section 5.1 (1) (b))	I/O assignment	Type		Blank	Available
		Model name			Available
		Points			Available
		StartXY			Available
		Switch setting	Switches 1 to 5	Blank	Available
		Detailed setting	Error time output mode	Clear	Available
			H/W error time PLC operation mode	Stop	Available
			I/O response time	10ms or 0.2ms	Available
	Basic setting	Base model name		Blank	Available
		Power model name			Available
		Extension cable			Available
		Slots			Available
		Base mode		Auto	Available

*1 When SB000D (Fuse blown error check/clear) in the MELSECNET/10 remote master station is turned on, an existing fuse blown error is cleared. When SB000E (I/O verify error check/clear) is turned on, an existing I/O module verify error is cleared.

*2 This item do not need to be selected since the forwarding parameter between devices cannot be set in MELSECNET/10 mode.

*3 Do not set the forwarding parameter between devices in MELSECNET/10 mode. If set, SP. PARA ERROR (error code: 3301) occurs.

Point

If the CPU module on the remote master station is the Q4ARCPU, the error time output mode setting shall be as follows.

Error time output mode	Output setting for the Q4ARCPU	
	Hold	Reset
Hold	Holds output data	Clears output data
Clear	Clears output data	Clears output data

(a) PLC RAS setting

If an error (fuse blown or I/O module verify error) occurs on the remote master station (CPU module) or remote I/O station, the data link and output status of the remote I/O station is determined depending on the combination of parameters set to both stations.

The error check parameter for these two errors can be set on the MELSECNET/H (MELSECNET/10 mode) remote I/O station side.

However, if the error check status is disabled in parameter set to the CPU module on the MELSECNET/10 remote master station, the setting on the MELSECNET/10 remote master station is given priority.

(b) I/O assignment setting

I/O points can be assigned on the MELSECNET/H (MELSECNET/10 mode) remote I/O station side.

However, if I/O points are also assigned in parameter set to the CPU module on the MELSECNET/10 remote master station, the setting on the MELSECNET/10 remote master station is given priority.

To set the H/W error time PLC operation mode, use GX Developer of version 8.62Q or later.

(2) Network parameter

Network parameters same as those for the CPU module can be set to the MELSECNET/H (MELSECNET/10 mode) remote I/O station.

Item	Description
Ethernet	Set the network parameters of the Ethernet module mounted on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. (Q Corresponding Ethernet Interface Module User's Manual (Basic))
CC-Link	Set the network parameters of the CC-Link module mounted on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. (MELSEC-Q CC-Link System Master/Local Module User's Manual)

(3) Remote password

A remote password is set to the modules mounted on the MELSECNET/H (MELSECNET/10 mode) remote I/O station.

Item	Description
Password settings	Enter a password.
Password active module settings	Set a password-target module (Ethernet module and/or serial communication module).

For details, refer to the following.

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

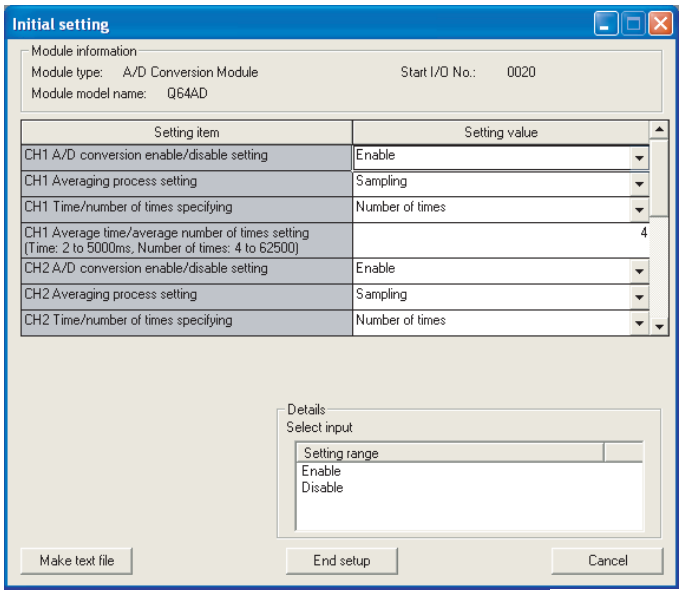
(4) Intelligent function module parameter

Parameters for intelligent function modules mounted on the MELSECNET/H (MELSECNET/10 mode) remote I/O station can be set.

However, the auto refresh parameter cannot be set.

If set, SP. PARA ERROR (error code: 3301) occurs.

Read/write data from/to the buffer memory using the ZNFR/ZNTO instructions.

Item	Description
Initial setting	Set the parameter for the intelligent function module. Up to 512 initial setting items can be set. The number of setting items differs depending on the intelligent function module used. Ex. For the Q64AD (GX Configurator-AD)  The number of initial setting items for the Q64AD is two. Add this number to the number of setting items for other intelligent function modules.

Remark

- The availability and the number of initial setting items differ depending on the intelligent function module used. (User's manual for the intelligent function module used)
- If the items are set exceeding the limit, the MELSECNET/H remote I/O module detects SP.PARA ERROR (error code: 3301).

CHAPTER 6 PROGRAMMING

6.1 Precautions for System Replacement

Check restrictions and precautions when replacing the MELSECNET/10 remote I/O station with the MELSECNET/H (MELSECNET/10 mode) remote I/O station.
For the restrictions and precautions, refer to the following.

Transition handbook

(1) I/O assignment

If modules occupy a greater number of I/O points or the number of slots used changes after the replacement, I/O points need different assignment.
(If modules occupy a smaller number of I/O points, using the I/O assignment in the previous system as is can avoid the mismatch of the start I/O numbers between the systems before and after the replacement. If the number of points assigned in parameter is greater than the number of I/O points actually occupied, no error occurs.)

(2) Program modification

If any intelligent function module is mounted on the MELSECNET/H (MELSECNET/10 mode) remote I/O station, the following items need to be modified in the sequence program.

- I/O signals
- Buffer memory addresses

(3) Setting additional parameters to the MELSECNET/H (MELSECNET/10 mode) remote I/O station

If any intelligent function module is mounted on the MELSECNET/H (MELSECNET/10 mode) remote I/O station, the following parameters need to be set additionally.

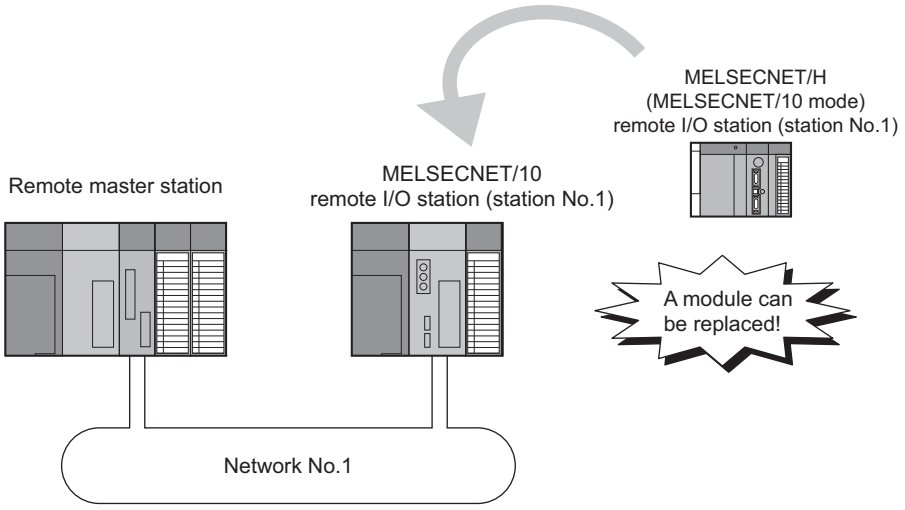
- Intelligent function module switch setting
- Initial setting

6.2 System Replacement Example

This section describes a system configuration and program examples for replacing the MELSECNET/10 remote I/O station with the MELSECNET/H (MELSECNET/10 mode) remote I/O station.

6.2.1 System configuration

Before the replacement	I/O number	After the replacement	I/O number
■Remote master station			
Power supply module (A1S61PN)	—	The configuration on the remote master station is the same.	
CPU module (A2USCPU)	—		
MELSECNET/10 remote master module (A1SJ71LP21)	X/Y00 to X/Y1F		
Input module (AX42)	X/Y20 to X/Y5F		
Output module (AY40)	X/Y60 to X/Y6F		
■MELSECNET/10 remote I/O station		**■MELSECNET/H (MELSECNET/10 mode) remote I/O station**	
Power supply module (A62P)	—	Power supply module (Q62P)	—
MELSECNET/10 remote I/O module (AJ72LP25)	—	MELSECNET/10 remote I/O module (QJ72LP25-25)	—
Special function module (A62DA)	X/Y1000 to X/Y101F	Intelligent function module (Q62DAN)	X/Y1000 to X/Y100F

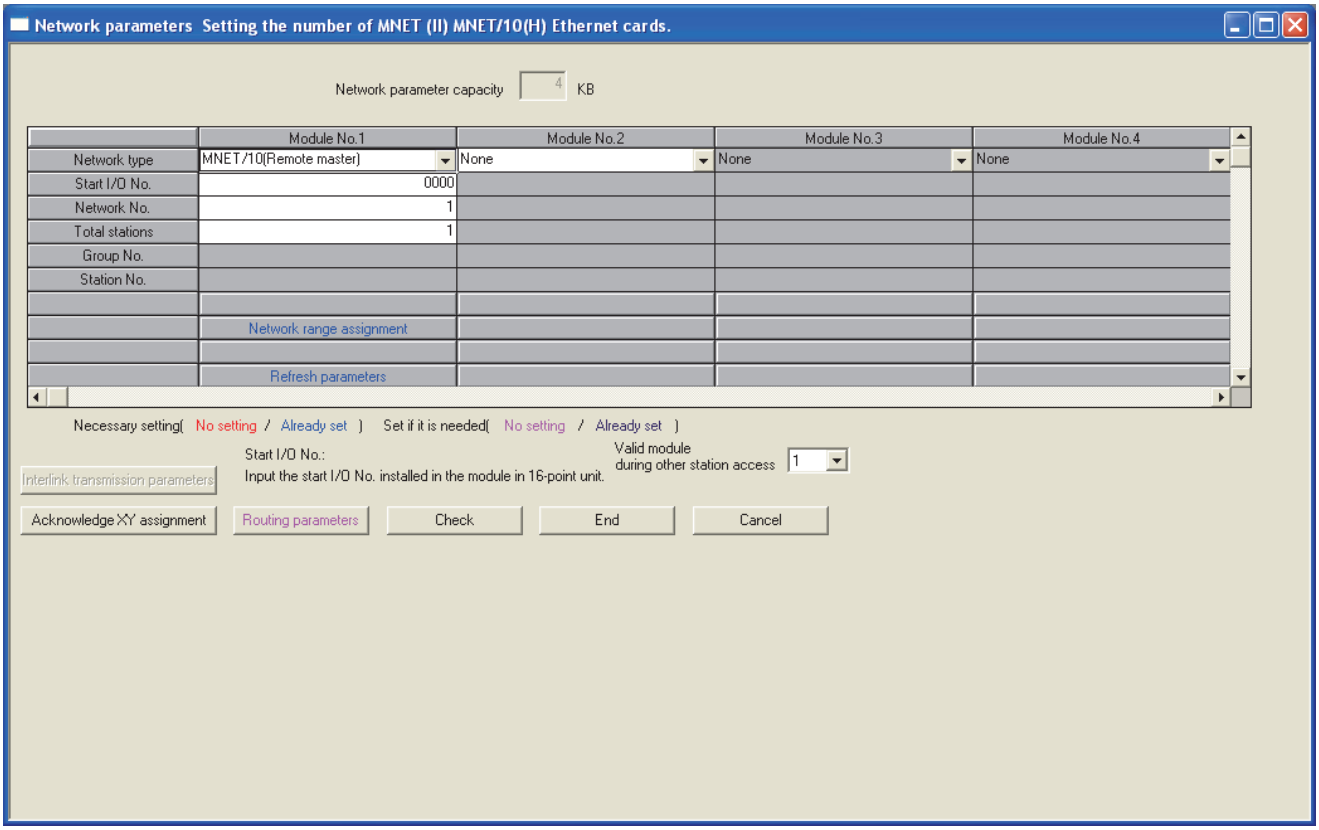


6.2.2 Parameter setting

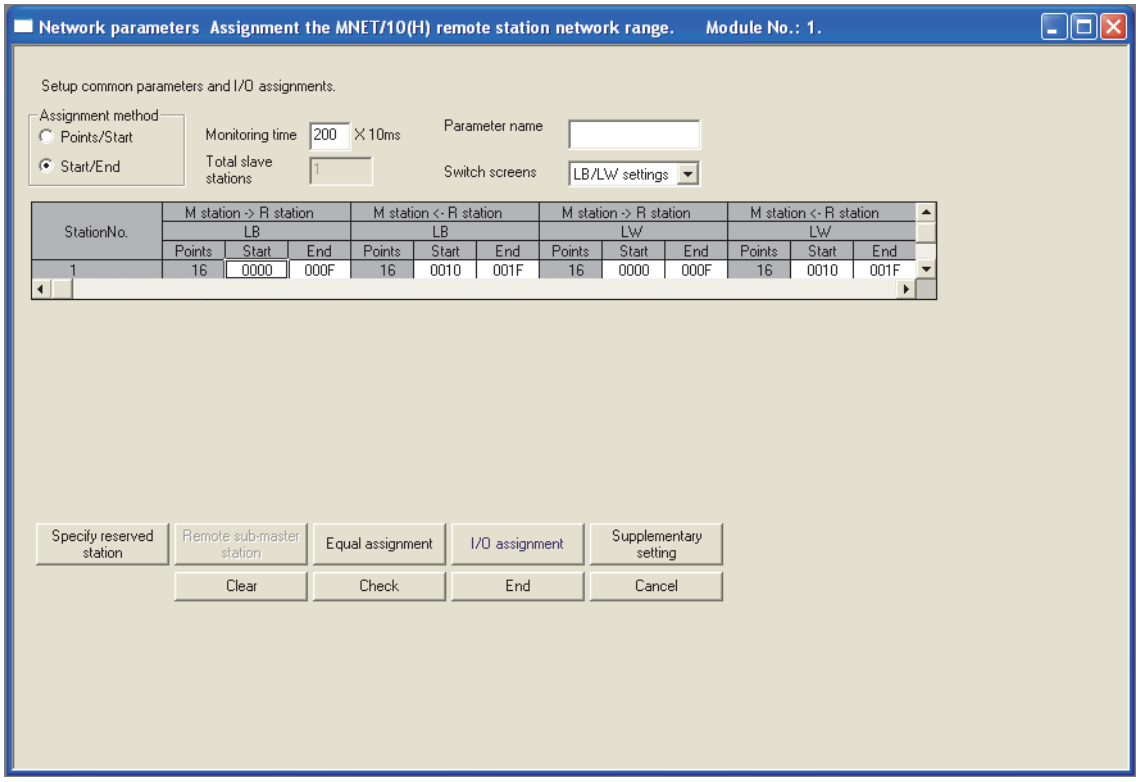
(1) Remote master station

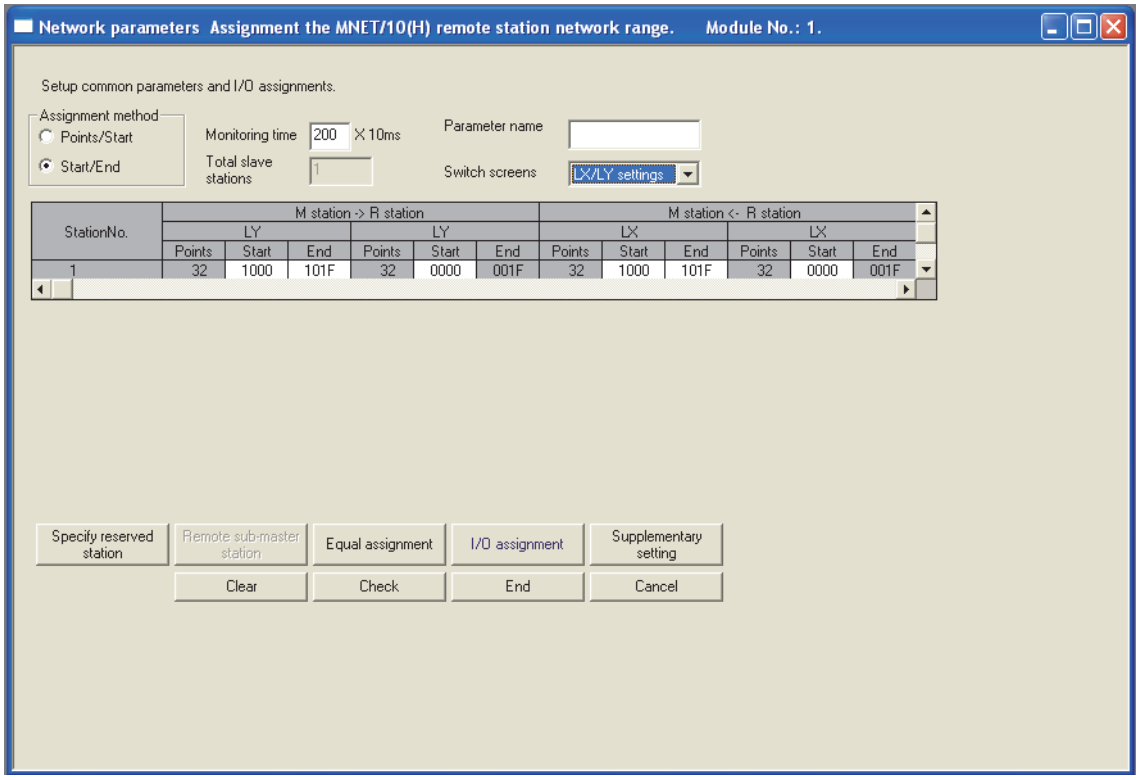
Since the start I/O number is not changed in the system configuration shown on Page 54, Section 6.2.1, the network parameters set to the remote master station can be used as is even after the replacement.

(a) Network parameter

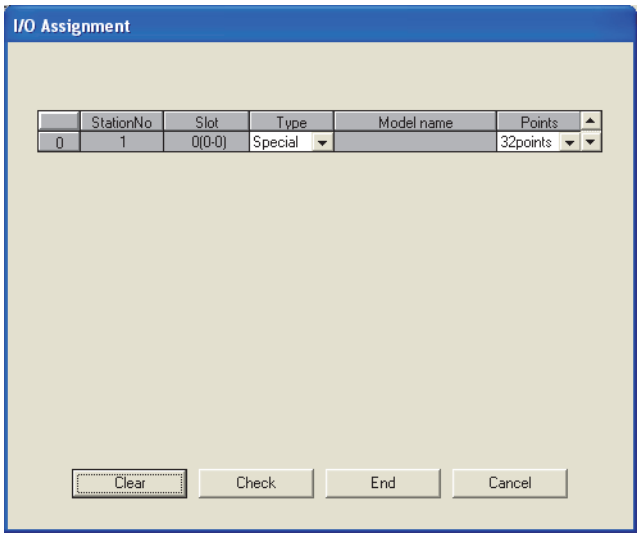


(b) Network range assignment

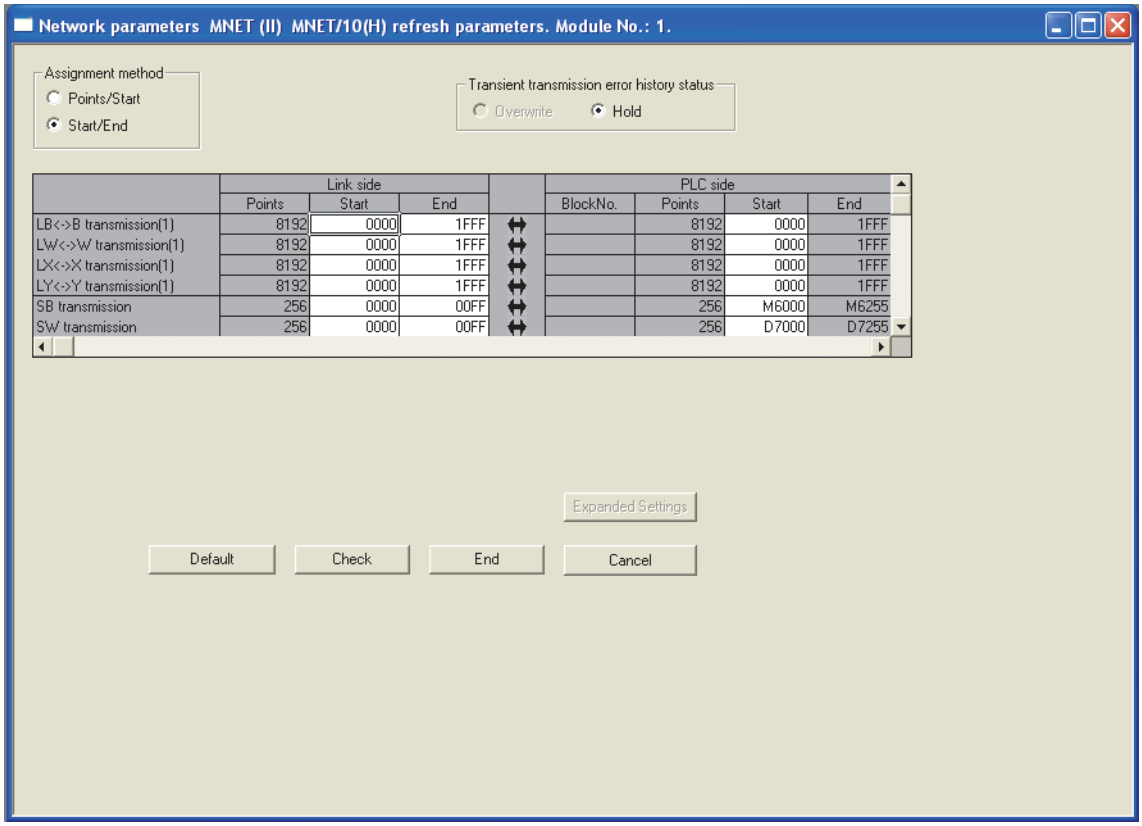




(c) I/O assignment



(d) Refresh parameter



(2) MELSECNET/H (MELSECNET/10 mode) remote I/O station

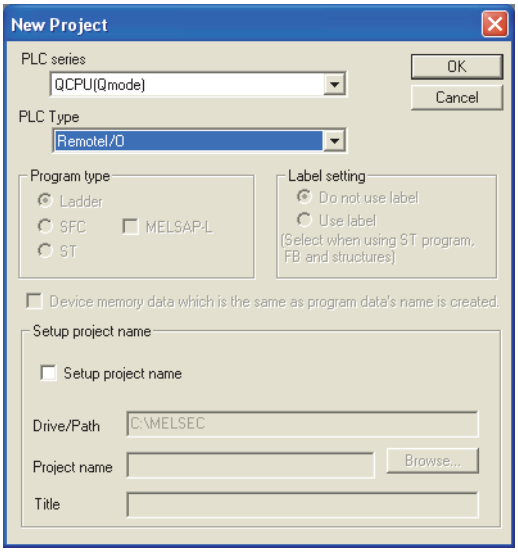
Create a project for the MELSECNET/H (MELSECNET/10 mode) remote I/O station.

If GX Configurator is not used, proceed from step 1 to 3 and skip to step 6, the PLC write operation.

1. Create a project of GX Developer.

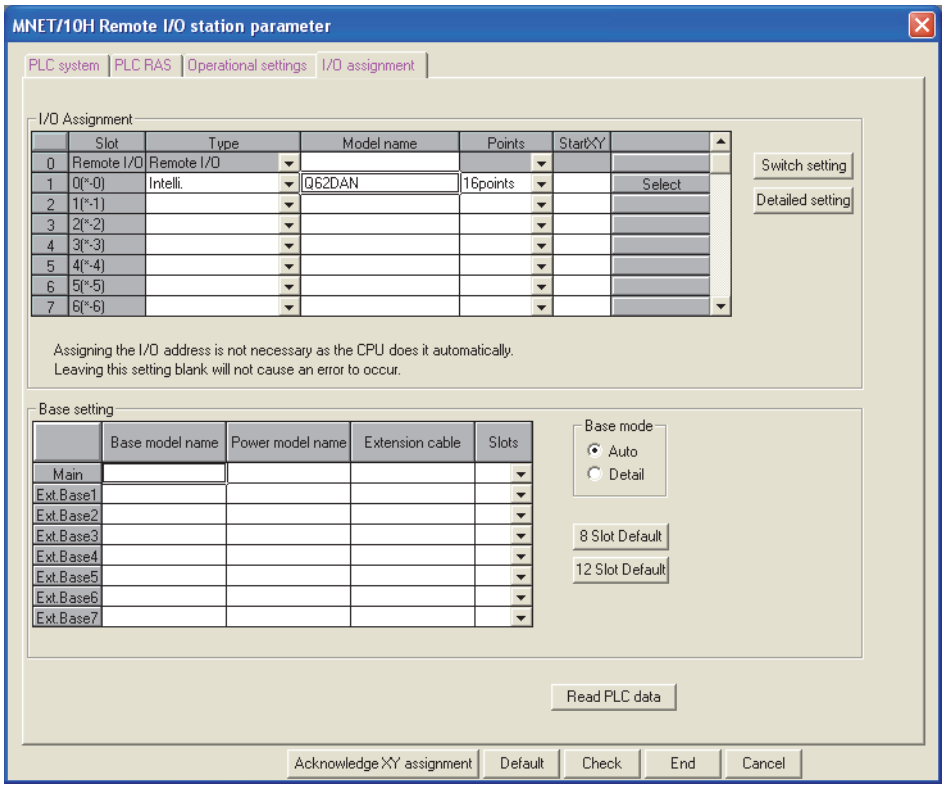
Select "QCPU (Q mode)" for "PLC series" and "Remote I/O" for "PLC Type".

[Project] ⇨ [New project]



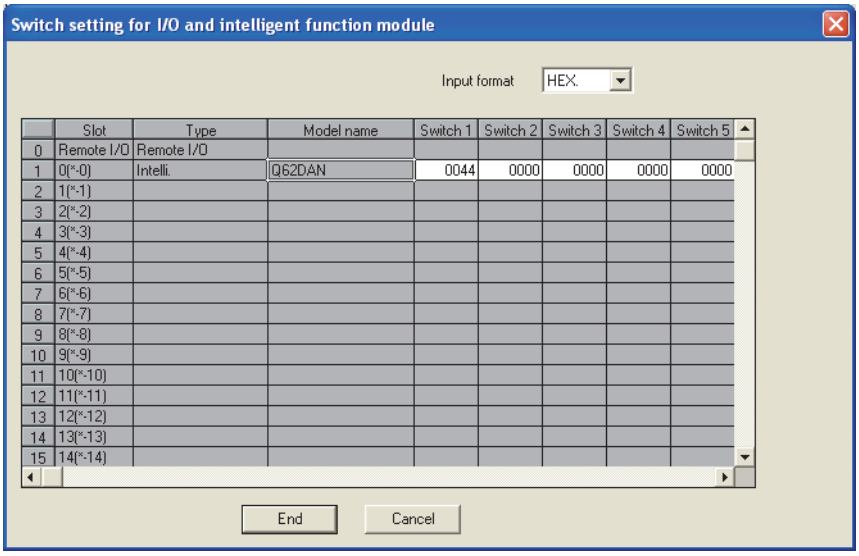
2. Add the Q62DAN to the project.

[Parameter] ⇨ [PLC parameter] ⇨ [I/O assignment]



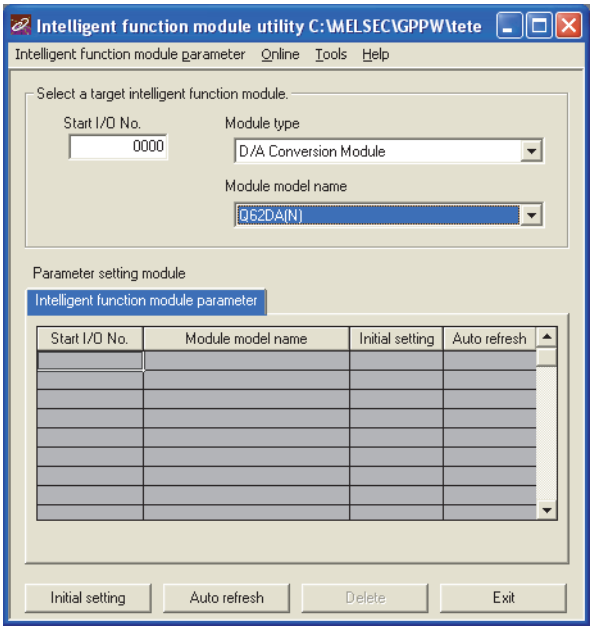
3. Display the Switch setting window and set the intelligent function module switches as shown below.

[Parameter] ⇨ [PLC parameter] ⇨ [I/O assignment] ⇨ Switch setting button



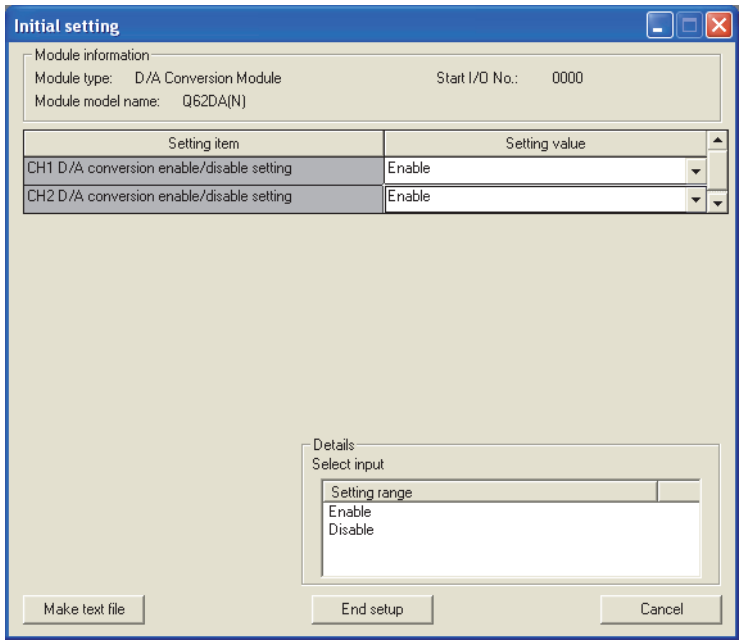
4. Start GX Configurator-DA and set the parameters as shown below.

[Tools] ⇨ [Intelligent function module utility] ⇨ [Start]



5. Display the Initial setting window and set the parameters as shown below.

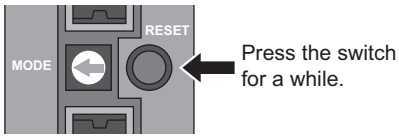
[Tools] ⇨ [Intelligent function module utility] ⇨ [Start] ⇨ Initial setting button



6. Write the set parameters to the MELSECNET/H remote I/O module.

[Online] ⇨ [Write to PLC]

7. Reset the MELSECNET/H remote I/O module.



6.2.3 Program examples

(1) Addition/change

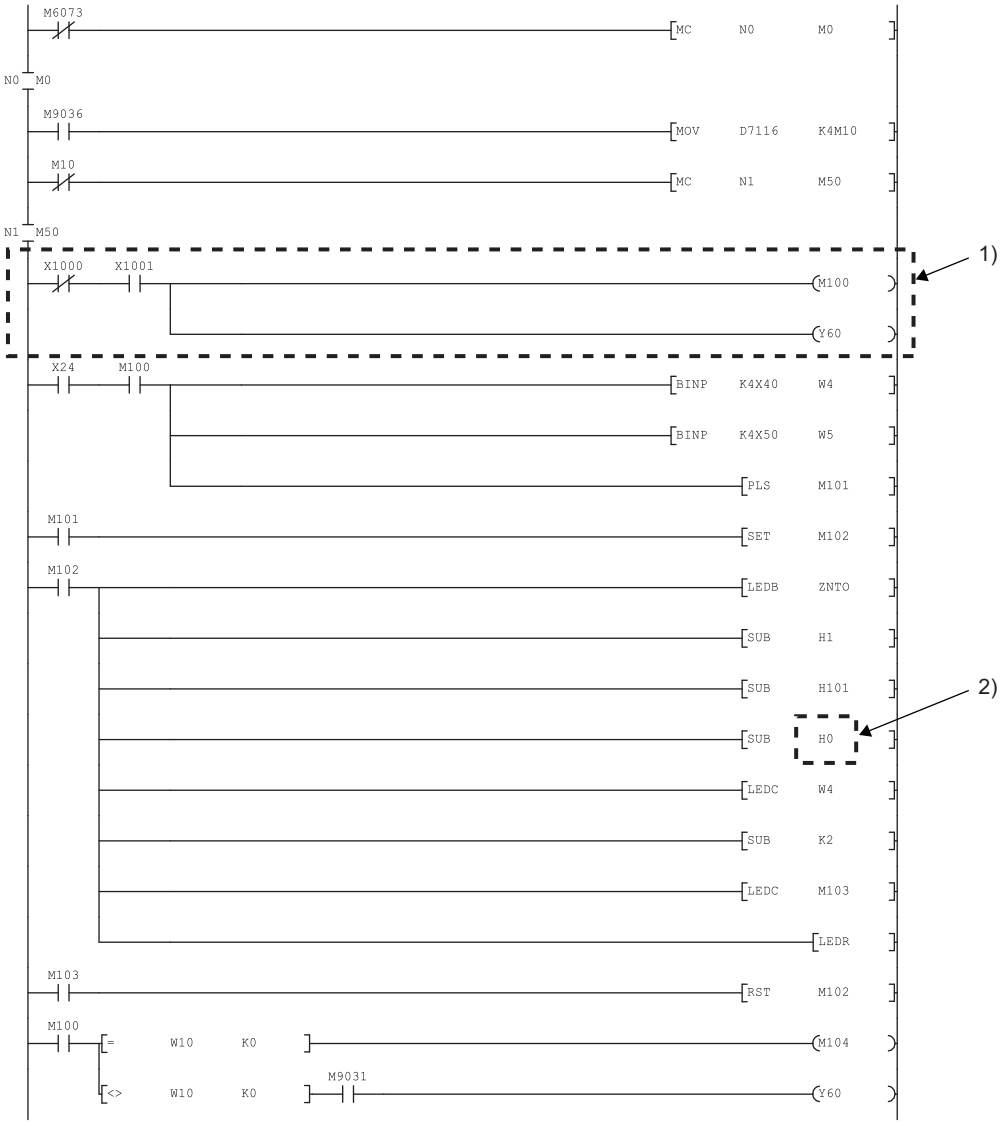
The following table lists the changes in the program between before and after the replacement.

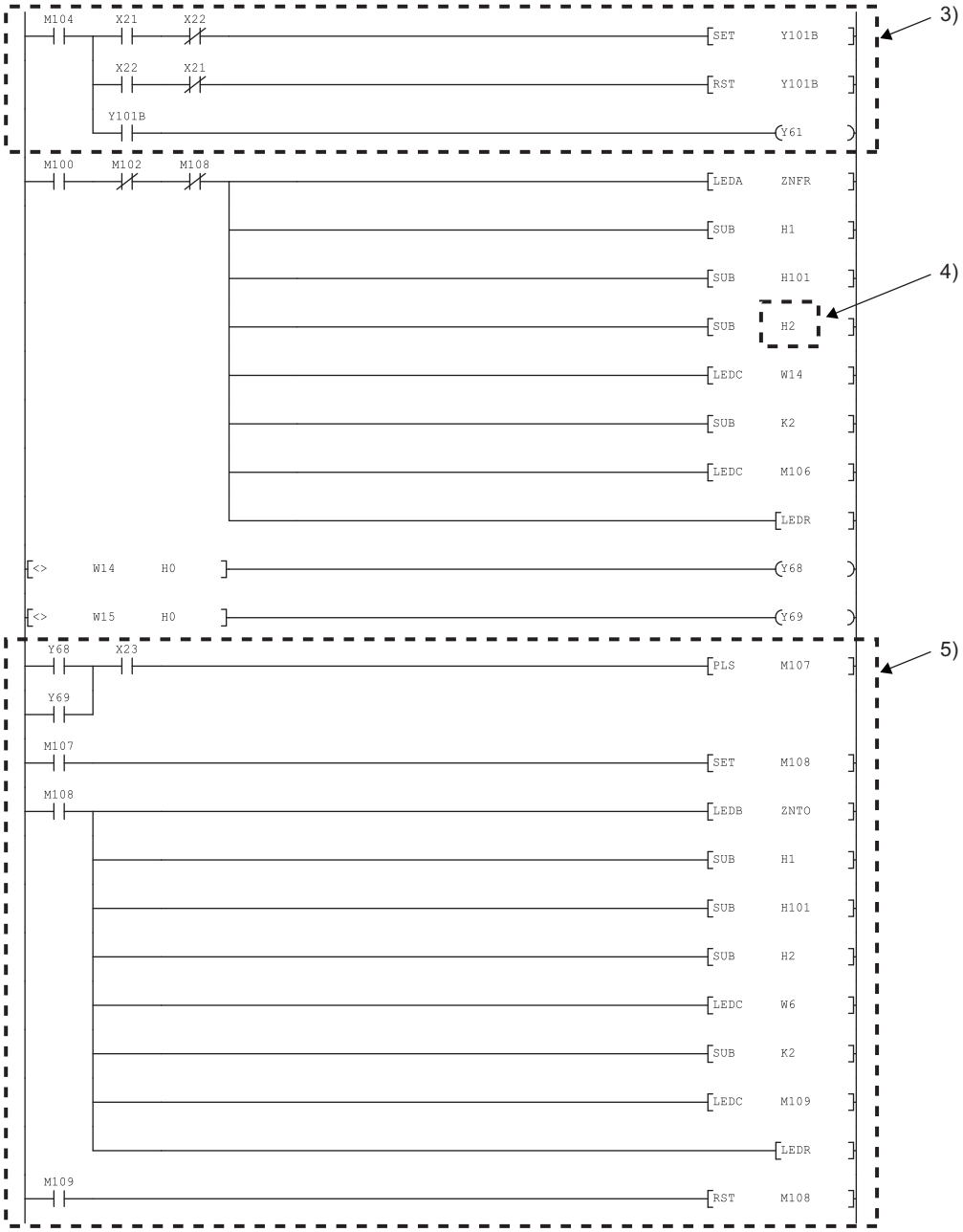
No.	Addition/change		Description
1)	Addition or change	Initial setting program*1	The initial setting program needs to be added or changed for the intelligent function module (Q62DAN).
2)	Change	Buffer memory addresses that store digital values	The buffer memory addresses for CH1 Digital value and CH2 Digital value need changing. • $0_H \rightarrow 1_H$ • $1_H \rightarrow 2_H$
3)	Change	I/O signals that enable or disable the output of digital output values	The I/O signal numbers of CH1 Output enable/disable flag and CH2 Output enable/disable flag need changing. • Y101B → Y1001, Y1002
4)	Change	Buffer memory addresses that read out the check codes for digital values	The buffer memory addresses for CH1 Set value check code and CH2 Set value check code need changing. • $2_H \rightarrow B_H$ • $3_H \rightarrow C_H$
5)	Change	Error clear request program	The error clearing method used in the program needs changing. The I/O signal Y100F is used instead of the ZNTO instruction.

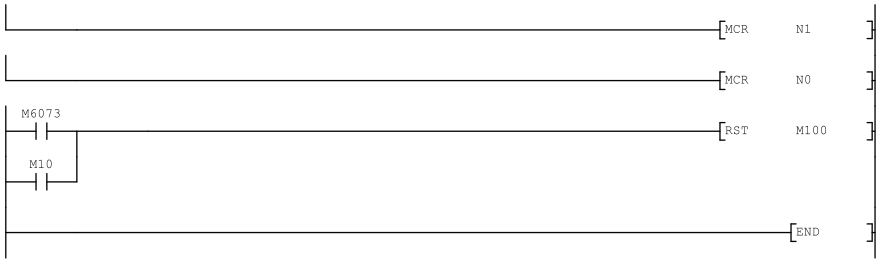
*1 The initial setting program needs to be added if GX Configurator is not used to configure initial settings of the Q62DAN.

(2) Program example before the replacement

This program converts digital values received from the remote master station into analog values, and outputs as a voltage from the A62DA on the MELSECNET/10 remote I/O station.

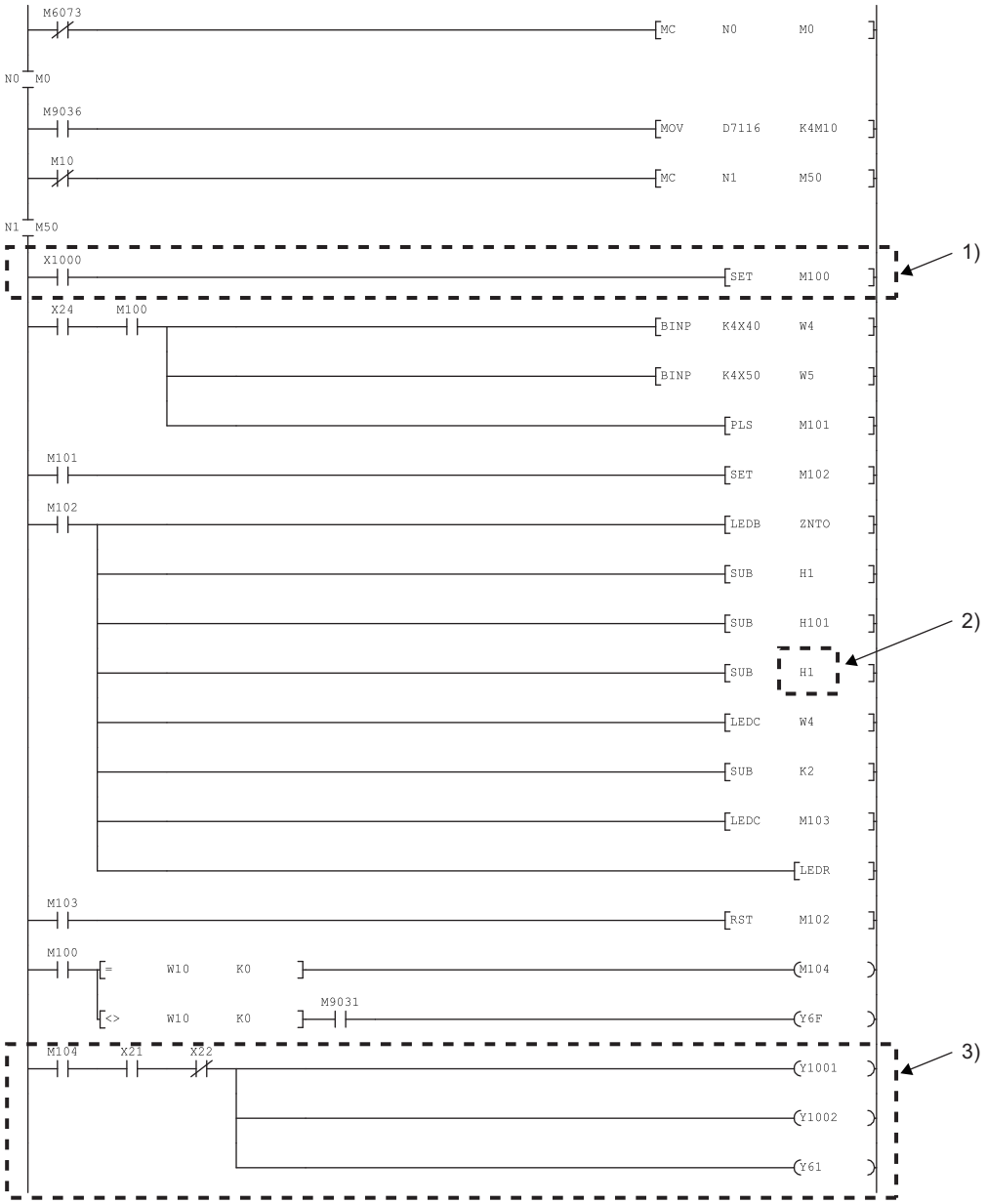


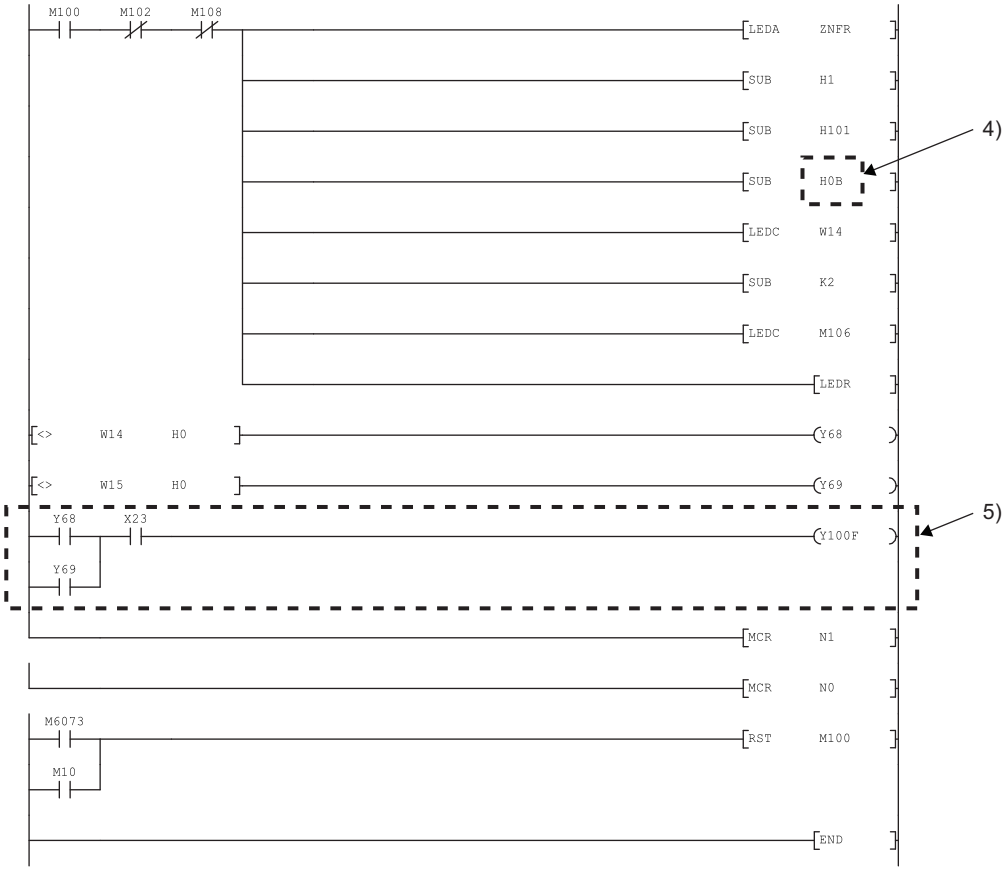

M104
X21
X22
SET Y101B
X22
X21
RST Y101B
Y101B
Y61
3)
M100
M102
M108
LEDA ZNFR
SUB H1
SUB H101
SUB H2
LEDC W14
SUB K2
LEDC M106
LEDR
4)
<> W14 H0
Y68
<> W15 H0
Y69
Y68
X23
PLS M107
Y69
M107
SET M108
M108
LEDB ZNTO
SUB H1
SUB H101
SUB H2
LEDC W6
SUB K2
LEDC M109
LEDR
M109
RST M108
5)


MCR N1
MCR N0
M6073
RST M100
M10
END

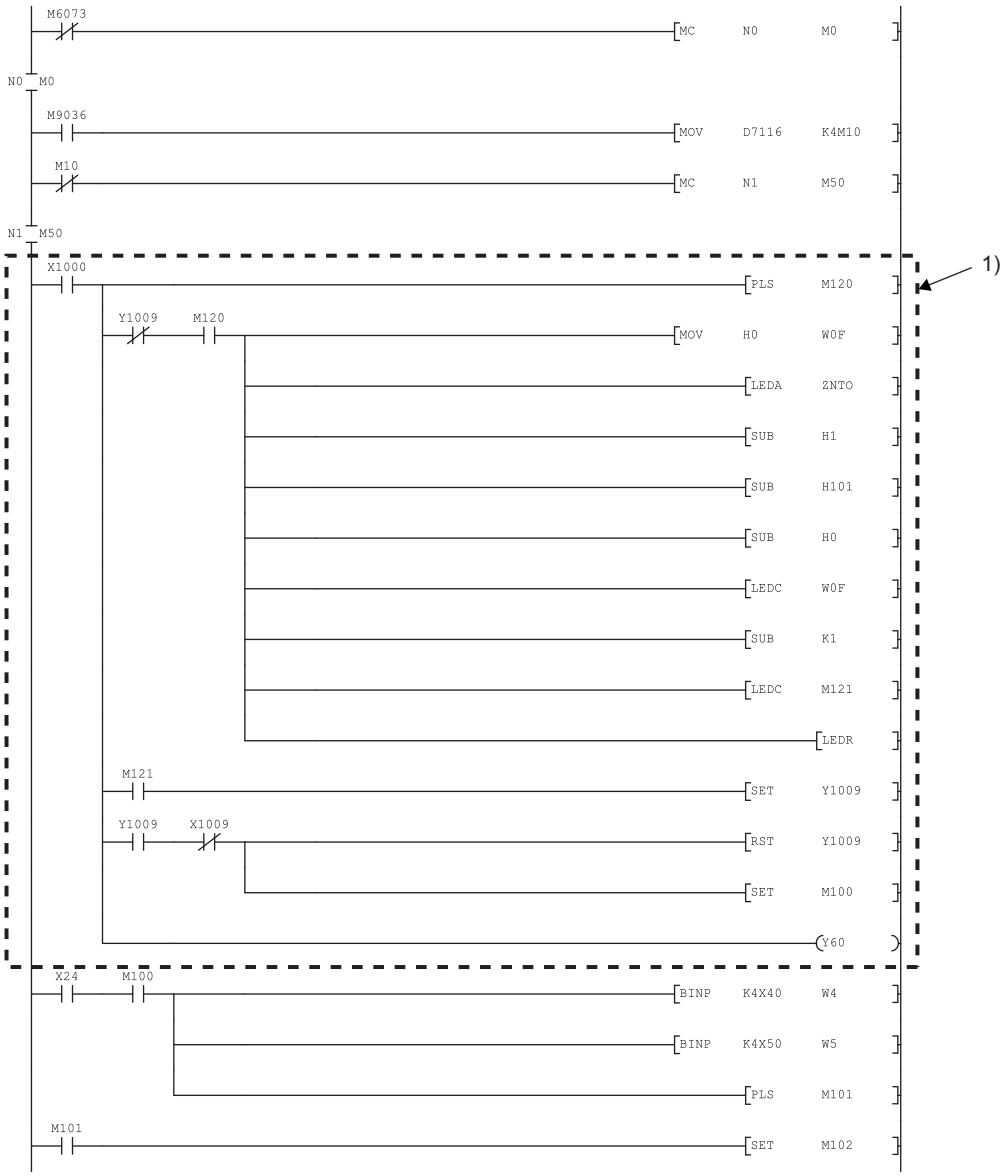
(3) Program example after the replacement

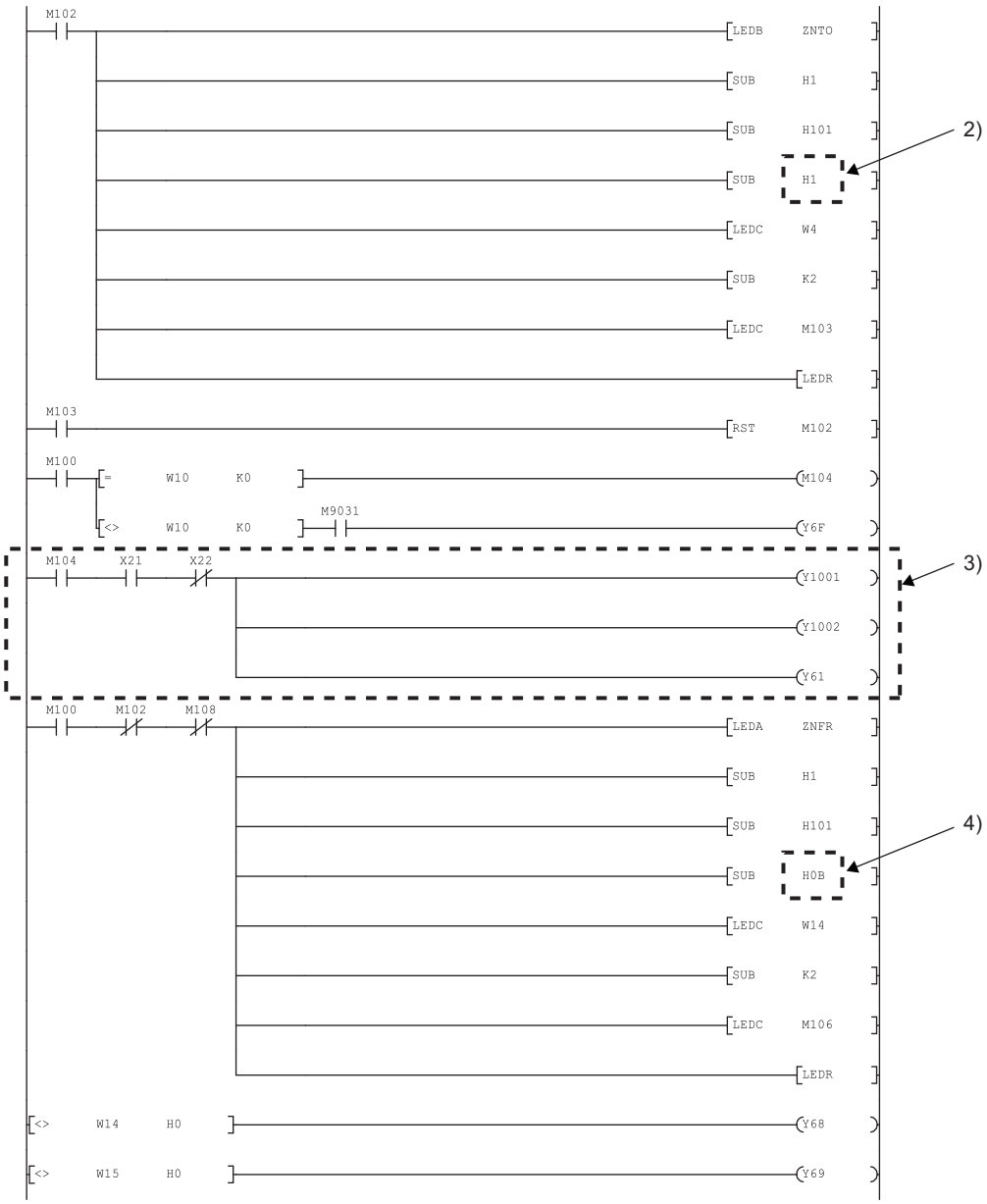
(a) When GX Configurator is used

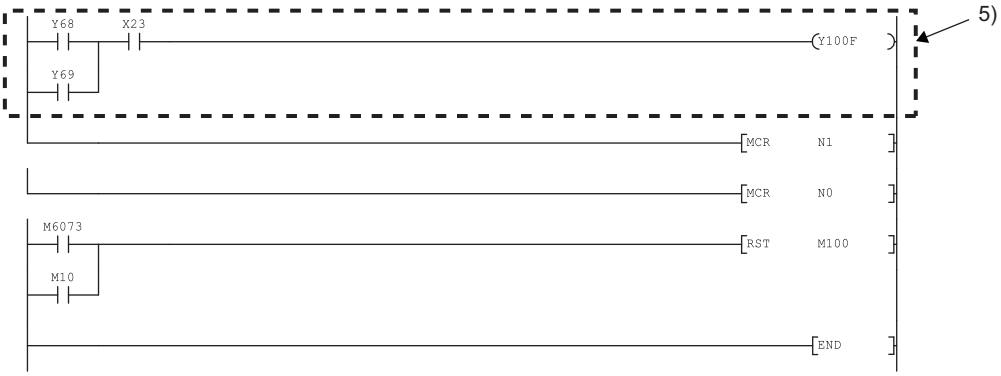



M100
M102
M108
LEDA ZNFR
SUB H1
SUB H101
SUB H0B
LEDC W14
SUB K2
LEDC M106
LEDR
<> W14 H0
Y68
<> W15 H0
Y69
Y68
X23
Y69
Y100F
MCR N1
MCR N0
M6073
M10
RST M100
END
4)
5)

(b) When GX Configurator is not used




M102
LEDB ZNTO
SUB H1
SUB H101
SUB H1
LEDC W4
SUB K2
LEDC M103
LEDR
2)
M103
RST M102
M100
= W10 K0
M104
<> W10 K0
M9031
Y6F
M104 X21 X22
Y1001
Y1002
Y61
3)
M100 M102 M108
LEDA ZNFR
SUB H1
SUB H101
SUB H0B
LEDC W14
SUB K2
LEDC M106
LEDR
4)
<> W14 H0
Y68
<> W15 H0
Y69


Y68
X23
Y100F
Y69
MCR N1
MCR N0
M6073
RST M100
M10
END
5)

CHAPTER 7 TROUBLESHOOTING

The following is the procedure for identifying and eliminating the cause of an error.

	Reference	Available tool
Checking the CPU module status on the remote master station Check an error of the CPU module on the remote master station.	User's manual for the CPU module used	• GPPA • GPPQ • GX Developer
▼		
Checking the LED status of the MELSECNET/10 remote master module Check an error of the MELSECNET/10 remote master module with its LED status.	Reference manual for the MELSECNET/10 network system used	—
▼		
Network diagnostics on the remote master station Check an error by performing the network diagnostics on the remote master station.	Page 75, Section 7.2	• GPPA • GPPQ • GX Developer
▼		
Checking data link status Check the data link status of the MELSECNET/10 remote I/O network.	Page 43, Section 4.4	—
▼		
Checking the LED status of the MELSECNET/10 remote I/O module Check an error of the MELSECNET/10 remote I/O module with its LED status.	Reference manual for the MELSECNET/10 network system used	—
▼		
Checking the LED status of the MELSECNET/H remote I/O module Check an error of the MELSECNET/H remote I/O module with its LED status.	Page 72, Section 7.1.1 to Page 74, Section 7.1.6	—
▼		
Checking an error on the MELSECNET/10 remote I/O station Check an error on the MELSECNET/10 remote I/O network.	Reference manual for the MELSECNET/10 network system used	—
▼		
Checking an error on the System monitor window for the MELSECNET/H (MELSECNET/10 mode) remote I/O station Check an error on the System monitor window for the MELSECNET/H (MELSECNET/10 mode) remote I/O station.	Page 89, Section 7.4.1 (2)	• GX Developer • GX Works2
▼		
Network diagnostics on the MELSECNET/H (MELSECNET/10 mode) remote I/O station Check an error by performing the network diagnostics on the MELSECNET/H (MELSECNET/10 mode) remote I/O station.	Page 75, Section 7.2	• GX Developer • GX Works2
▼		
Monitoring the link special relay (SB) and link special register (SW) Check an error by referring to the data in the link special relay (SB) and link special register (SW) of the MELSECNET/H (MELSECNET/10 mode) remote I/O station.	—	—
▼		
Unit test (offline test) Check an error on by performing the unit test (offline test) for the MELSECNET/H remote I/O module. • Self-loopback test • Internal self-loopback test • Hardware test	Page 39, Section 4.3	—

7.1 Checking an error with LEDs

This section describes the procedure for checking an error with the LEDs of the MELSECNET/H remote I/O module and the troubleshooting. Check the status of each LED in the following order.

For the module status corresponding to each LED indication, refer to ☞Page 35, Section 4.2.

1. **Check the RUN LED.**
   When the RUN LED is not on, perform the following troubleshooting.
   ☞Page 72, Section 7.1.1
2. **Check the REM. LED.**
   When the REM. LED is off or flashing, perform the following troubleshooting.
   ☞Page 72, Section 7.1.2
3. **Check the ERR. LED.**
   When the ERR. LED is on or flashing, perform the following troubleshooting.
   ☞Page 73, Section 7.1.3
4. **Check the L ERR. LED.**
   When the L ERR. LED is on, perform the following troubleshooting.
   ☞Page 73, Section 7.1.4
5. **Check the T.PASS LED.**
   When the T.PASS LED is off or flashing, perform the following troubleshooting.
   ☞Page 74, Section 7.1.5
6. **Check the D.LINK LED.**
   When the D.LINK LED is off, perform the following troubleshooting.
   ☞Page 74, Section 7.1.6

7.1.1 When the RUN LED is not on

Check the following items.

Check item	Corrective action
Power is not supplied to the power supply module.	Supply power to the power supply module.
The POWER LED of the power supply module is not on.	• The power supply module has failed. Replace the power supply module. • The overcurrent protection circuit is in its operation. Check the current consumption of the modules mounted on the base unit.
The MELSECNET/H remote I/O module has not been properly mounted.	Mount the module to the base unit properly.

If the above corrective actions do not solve the problem, perform the unit test (offline test) to check if the module has a fault. (☞Page 39, Section 4.3)

7.1.2 When the REM. LED is off or flashing

Check either of the following items that matches the current REM. LED status.

(1) When the REM. LED is off

When the REM. LED is off, check the status of the ERR. LED.

When the ERR. LED is off, the module is being initialized. When the initialization processing ends, the REM. LED turns on.

When the ERR. LED is on, an error exists. Connect GX Developer and perform system monitoring. (☞Page 89, Section 7.4.1 (2))

(2) When the REM. LED is flashing

Check either of the following items that matches the current interval of flashing.

(a) Interval of 1s

Parameters are being written to the module. When the write processing ends, the REM. LED turns on.

(b) Interval of 100ms

Forced input/output are being registered. Connect GX Developer and cancel the forced input/output registration.

7.1.3 When the ERR. LED is on or flashing

Check either of the following items that matches the current ERR. LED status.

(1) When the ERR. LED is on

An error exists. Connect GX Developer and perform system monitoring.

(☞Page 89, Section 7.4.1 (2))

(2) When the ERR. LED is flashing

Check the following items.

Check item	Corrective action
Offline test is being performed.	The unit test (offline test) has been completed with an error. The possible cause is a hardware failure of the MELSECNET/H remote I/O module. Please consult your local Mitsubishi representative.*1
The setting of the mode setting switch or station number setting switch has been changed during the operation.	Reset the MELSECNET/H remote I/O module.

*1 If the self-loopback test completes with an error, replace the cable and perform the test again.
When the test completes with an error again, the possible cause is a hardware failure of the MELSECNET/H remote I/O module.
Please consult your local Mitsubishi representative.

7.1.4 When the L ERR. LED is on

Check either of the following items that matches the current L ERR. LED status.

(1) When the L ERR. LED is on

Connect GX Developer to the MELSECNET/H remote I/O module and perform the following network diagnostics.

- Host information (☞Page 75, Section 7.2.1)
- Network monitor details (☞Page 78, Section 7.2.3)
- Error history monitor (☞Page 81, Section 7.2.4)

(2) When the status of L ERR. LED is unstable

The line status may be unstable. Check the following.

- The status of connectors and cables
- Whether the cables that meet the specifications are used
- Whether the overall cable distance and station-to-station distance are within the specifications range (☞Page 23, Section 3.1)

7.1.5 When the T.PASS LED is off or flashing

Check one of the following items that matches the current T.PASS LED status.

(1) When the T.PASS LED is off

Check that the mode setting switch is set to "8".
If not, set the switch to "8" and reset the MELSECNET/H remote I/O module.

(2) When the T.PASS LED is flashing

If an offline test is being performed, wait until the test ends. Set the mode setting switch to "8" and reset the MELSECNET/H remote I/O module.

(3) When the status of T.PASS LED is unstable

The line status may be unstable. Check the following.

- The status of connectors and cables
- Whether the cables that meet the specifications are used
- Whether the overall cable distance and station-to-station distance are within the specifications range (☞Page 23, Section 3.1)

7.1.6 When the D.LINK LED is off

Connect GX Developer to the MELSECNET/H remote I/O module and perform the following network diagnostics.

- Other station information (☞Page 77, Section 7.2.2)
- Network monitor details (☞Page 78, Section 7.2.3)

7.2 Network Diagnostics

The status of the MELSECNET/10 remote I/O network can be checked by performing network diagnostics using GX Developer.

When an error occurs, an error station can be identified with network diagnostics (host information, other station information, network monitor details, and error history monitor). (Page 75, Section 7.2.1 to Page 81, Section 7.2.4)

Network diagnostics can be performed to the remote master station and MELSECNET/H (MELSECNET/10 mode) remote I/O station*1.

*1 To perform network diagnostics from the MELSECNET/H (MELSECNET/10 mode) remote I/O station, use GX Developer of version 6.01B or later.

Point

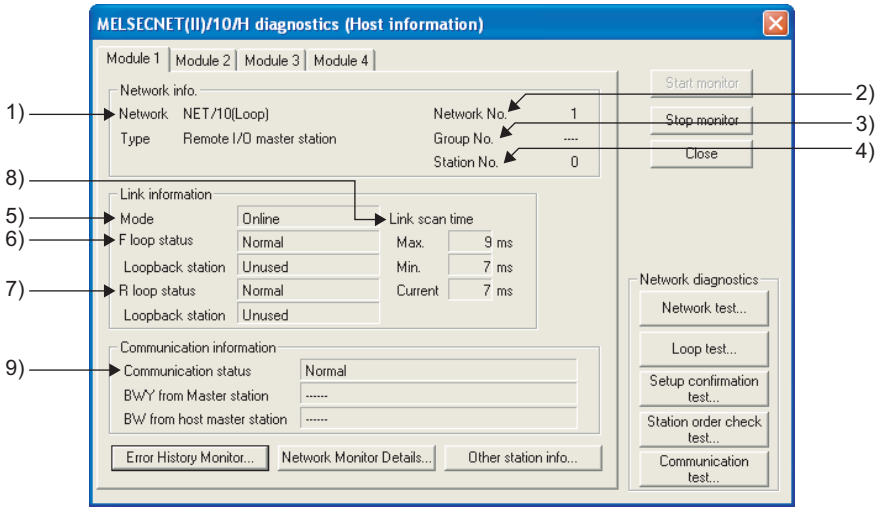
- The network diagnostic target is the network of the host station specified in transfer setup.
- When another station is specified in transfer setup, only the host information and other station information can be checked by the network diagnostics.
- During the offline test, the network diagnostic information is not displayed correctly.
- To access the programmable controller on another station using the link dedicated instruction during the network diagnostics, the execution of the instruction may be delayed.
  Using the COM instruction, change the program so that the network diagnostics processing and the link dedicated instruction are performed at the same time.

Remark

SB and SW areas listed in each table indicate the link special relay (SB) and link special register (SW) used for monitoring items.

7.2.1 Host information

The overall network information and host information can be checked.



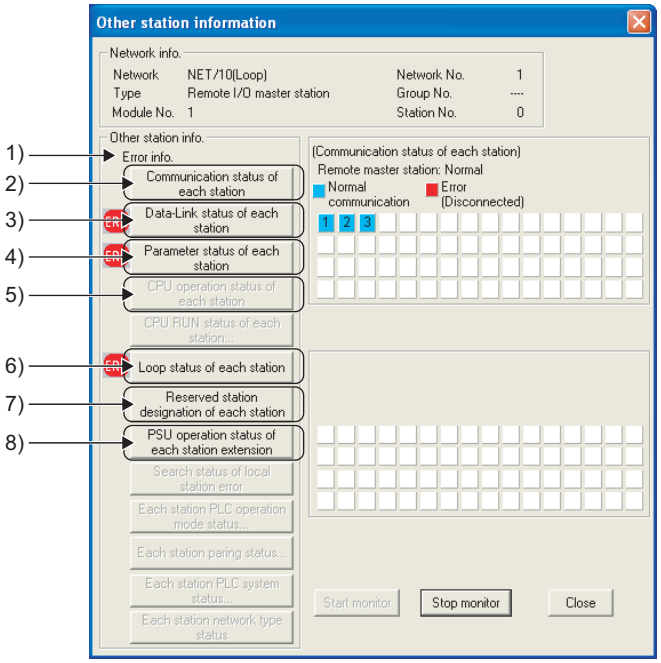
<table>
<tr><th>No.</th><th colspan="2">Item</th><th>SB/SW</th><th>Description</th></tr>
<tr><td rowspan="2">1)</td><td rowspan="4">Network info.</td><td>Network</td><td rowspan="2">SB0040
SB0044
SW0046</td><td rowspan="2">The network used and the type of the host station are displayed.
• NET/10[Loop], Remote I/O master station
• NET/10[Bus], Remote I/O master station
When GX Developer is connected to the MELSECNET/H (MELSECNET/10 mode) remote I/O station, "MELSECNET/H" is displayed.</td></tr>
<tr><td>Type</td></tr>
<tr><td>2)</td><td>Network No.</td><td>SW0040</td><td>The network number of the host station is displayed.</td></tr>
<tr><td>3)</td><td>Group No.</td><td>SW0041</td><td>"---" is displayed.</td></tr>
<tr><td>4)</td><td>Station No.</td><td>SW0042</td><td>The station number of the host station is displayed.</td></tr>
<tr><td>5)</td><td rowspan="4">Link information</td><td>Mode</td><td>SW0043</td><td>The operation mode of the host station is displayed.
• Online
• Offline
• Forward loop test
• Reverse loop test
• Station-to-station test (Station that executes tests)
• Station-to-station test (Station to be tested)</td></tr>
<tr><td>6)</td><td>F loop status,
Loopback station</td><td>SB0091
SB0099
SW0099</td><td>The status on the forward loop side is displayed.
• F loop status: Normal/Abnormal
• Loopback station: Unused/"Station number where loopback is executed"
"---" is displayed for the bus type.</td></tr>
<tr><td>7)</td><td>R loop status,
Loopback station</td><td>SB0095
SB009A
SW009A</td><td>The status on the reverse loop side is displayed.
• R loop status: Normal/Abnormal
• Loopback station: Unused/"Station number where loopback is executed"
"---" is displayed for the bus type.</td></tr>
<tr><td>8)</td><td>Link scan time</td><td>SW006B
SW006C
SW006D</td><td>The maximum/minimum/current values of the link scan time of the host station are displayed. (Unit [ms])
<table>
<tr><th rowspan="2">Constant link scan</th><th colspan="2">Station type</th></tr>
<tr><th>Remote master station</th><th>MELSECNET/H (MELSECNET/10 mode) remote I/O station</th></tr>
<tr><td>Not set</td><td colspan="2">Actual measurement value (The actual maximum/minimum/current values are displayed.)</td></tr>
<tr><td>Set</td><td>Actual measurement value (The actual maximum/minimum/current values are displayed.)</td><td>Constant link scan ±2ms</td></tr>
</table></td></tr>
<tr><td>9)</td><td>Communication information</td><td>Communication status</td><td>SB0047</td><td>The communication status of the host station is displayed.
• Data link being performed (SB0047: Off)
• Data link being stopped (SB0047: On)</td></tr>
</table>

Point

The link information and communication information of the multiplexed remote sub-master station are not displayed.

7.2.2 Other station information

The status of communications, data link, parameters, CPU modules, and loops of other stations (including reserved stations) can be checked.



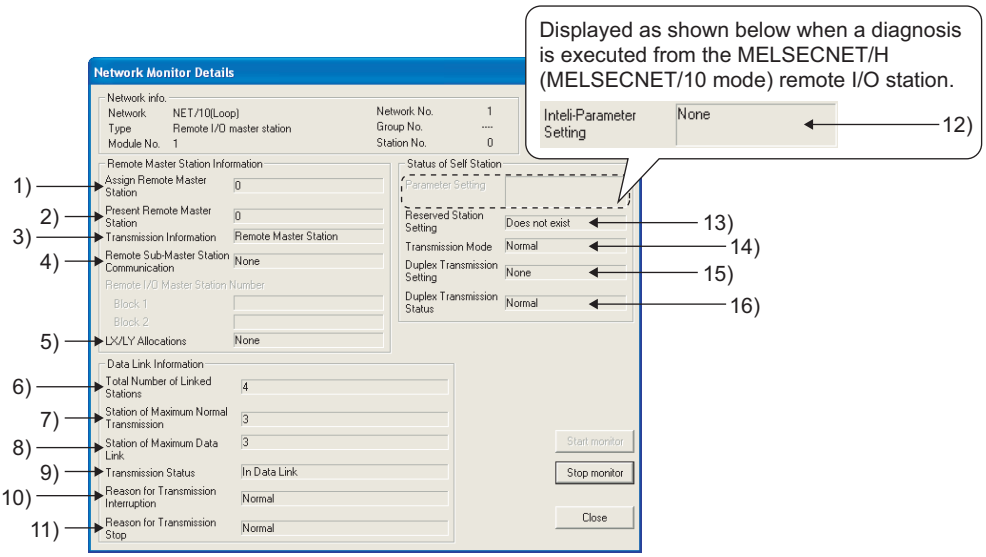
Clicking each item button displays each station status corresponding to the item.
The number of stations displayed on the right side of the window is the total number of link stations set in network parameter for the remote master station.

No.	Item	SB/SW	Description
—	Network info.	—	The information same as "Host information" is displayed. (☞ Page 75, Section 7.2.1)
1)	Error info.	—	When the following situations are detected, the three-letter marks are displayed on the left of each item button. **Status** / **Display** When a faulty station or STOP station is detected / ERR When a reserved station exists / RSV When the power is supplied to the external power supply built in the MELSECNET/10 remote master module / PWR
2)	Communication status of each station	SW0070 to SW0073	The baton pass status (transient transmission status) is displayed. • Light blue.....Communication normal station, reserved station • Red.....Communication error station (disconnected)
3)	Data-Link status of each station	SW0074 to SW0077	The cyclic transmission status is displayed. • Light blue.....Normal station, reserved station • Red.....Error station (data link not being performed)
4)	Parameter status of each station	SW0078 to SW007B, SW007C to SW007F	The parameter status of each station is displayed. This item is disabled when GX Developer is connected to the MELSECNET/H (MELSECNET/10 mode) remote I/O station. Connect GX Developer to the remote master station. Parameter status of each station • Light blue.....Parameters not being transferred, reserved station, unconnected station • Red.....Parameters being transferred Parameter error status of each station • Light blue.....Parameters correctly set, reserved station, unconnected station • Red.....Parameter error

No.	Item	SB/SW	Description
5)	CPU operation status of each station	SW0080 to SW0083, SW0088 to SW008B	The operating status of the MELSECNET/H (MELSECNET/10 mode) remote I/O station is displayed. This item is enabled only when GX Developer is connected to the MELSECNET/H (MELSECNET/10 mode) remote I/O station. The status is displayed for stations whose communication status is normal. • Light blue.....Normal operation, reserved station, unconnected station • Yellow.....Error Minor: Minor error • Red.....Error Major: Moderate (including a watchdog timer error) Major (including a hardware error)
6)	Loop status of each station	SW0091 to SW0098	For the optical loop system, the forward/reverse loop status is displayed. • Light blue.....Normal loop operation, reserved station, unconnected station • Red.....Error
7)	Reserved station designation of each station	SW0064 to SW0067	The reserved station setting is displayed. • Light blue.....Connected station • Red.....Reserved station
8)	PSU operation status of each station extension	SW008C to SW008F	The status of the 24VDC external power supply built in the MELSECNET/10 remote master module is displayed. The status is displayed for stations whose communication status is normal. • Green.....Power being supplied • White.....Power not being supplied

7.2.3 Network monitor details

The remote master station information, data link information, and parameter status of the host station can be checked.



No.	Item		SB/SW	Description
—	Network info.		—	The information same as "Host information" is displayed. (☞ Page 75, Section 7.2.1)
1)	Remote Master Station Information	Assign Remote Master Station	SW0057	The station number (0) of the remote master station is displayed.
2)		Present Remote Master Station	SW0056	The station number of the station which actually controls the remote I/O station is displayed.
3)		Transmission Information	SB0056	The type of the station which controls the remote I/O station is displayed. The displayed type is changed to the remote sub-master station automatically when the remote master station is down. • Remote Master Station • Remote Sub-Master Station Communication
4)		Remote Sub-Master Station Communication	SB0058	The cyclic transmission status (communication by the remote sub-master station) when the remote master station is down is displayed. • Yes • None
5)		LX/LY Allocations	—	The I/O assignment status is displayed. The status is displayed only when GX Developer is connected to the remote master station. • Yes • None
6)	Data Link Information	Total Number of Linked Stations	—	The number of stations (the total number of link stations set in network parameter for the remote master station + 1 (remote master station)) is displayed.
7)		Station of Maximum Normal Transmission	SW005A	The greatest station number of the station where the baton pass (transient transmission) is normally performed is displayed. On the station where the baton pass is normally performed, the T.PASS LED of the network module is on.
8)		Station of Maximum Data Link	SW005B	The greatest station number of the station where the data link (cyclic transmission and transient transmission) is normally performed is displayed. On the station where the data link is normally performed, the D.LINK LED of the network module is on.
9)		Transmission Status	SW0047	The transmission status of the host station is displayed. (☞ Page 80, Section 7.2.3 (1))
10)		Reason for Transmission Interruption	SW0048	The cause of the communication (transient transmission) failure of the host station is displayed. (☞ Page 80, Section 7.2 (2)) For the corrective action, refer to the error codes. (☞ Page 88, Section 7.4)
11)		Reason for Transmission Stop	SW0049	The cause of the data link (cyclic transmission) failure of the host station is displayed. (☞ Page 81, Section 7.2.3 (3))
12)	Status of Self Station	Inteli-Parameter Setting	SW0054	The status of the intelligent function module parameters written to the MELSECNET/H (MELSECNET/10 mode) remote I/O station is displayed. This item is displayed only when GX Developer is connected to the MELSECNET/H (MELSECNET/10 mode) remote I/O station. • Available • None
13)		Reserved Station Setting	SB0064	The specification status of the reserved station is displayed. • Exists • Does not exist
14)		Transmission Mode	SB0068	The status of the link scan is displayed. • Normal • Constant link scan
15)		Duplex Transmission Setting	SB0069	The specification status of the multiplex transmission is displayed. • None • Multiplex transmission "----" is displayed for the bus type system.
16)		Duplex Transmission Status	SB006A	The status of the multiplex transmission is displayed. • Normal • Multiplex transmission "----" is displayed for the bus type system.

(1) Transmission status

Item	Description
In Data Link	The data link is being performed.
Suspend Data link (Other)	Another station stops the cyclic transmission.
Suspend Data link (Host)	The host station stops the cyclic transmission.
Baton Pass (No area)	The B/W transmission range of the host station is not assigned.
Baton Pass (Parameter Halt)	The parameter of the host station is faulty.
Baton Pass (No Receive)	The common parameters have not been received.
Disconnecting (No Baton)	The station numbers are overlapped or the cable is not connected.
Disconnecting (Link Error)	The cable is not connected.
In Test	The online test or offline test is being performed.
Resetting	A hardware failure may have occurred.

(2) Reason for transmission interruption

Item	Description
Normal	Data communications are being performed normally.
Offline	The module is in the offline status.
Offline Test	The offline test is being performed.
Initial state	The module is in the initial state (error code: F101, F102, F105). (☞ Page 88, Section 7.4)
Shift Control Station	An error (error code: F104, F106) has occurred. (☞ Page 88, Section 7.4)
Online testing	The online test is being performed (error code: F103, F109, F10A). (☞ Page 88, Section 7.4)
Baton disappearance	An error (error code: F107) has occurred. (☞ Page 88, Section 7.4)
Baton repetition	An error (error code: F108) has occurred. (☞ Page 88, Section 7.4)
Same Station Present	An error (error code: F10B) has occurred. (☞ Page 88, Section 7.4)
Control station repetition	An error (error code: F10C) has occurred. (☞ Page 88, Section 7.4)
Reception retry error	An error (error code: F10E) has occurred. (☞ Page 88, Section 7.4)
Transmission retry error	An error (error code: F10F) has occurred. (☞ Page 88, Section 7.4)
Timeout error	An error (error code: F110) has occurred. (☞ Page 88, Section 7.4)
Network Disorder	An error (error code: F112) has occurred. (☞ Page 88, Section 7.4)
Disconnecting...	An error (error code: F11B) has occurred. (☞ Page 88, Section 7.4)
No baton to local station	An error (error code: F11F) has occurred. (☞ Page 88, Section 7.4)
Error code:****	An error has occurred. When an error code is displayed, refer to the error code list and take the corrective action. (☞ Page 88, Section 7.4)

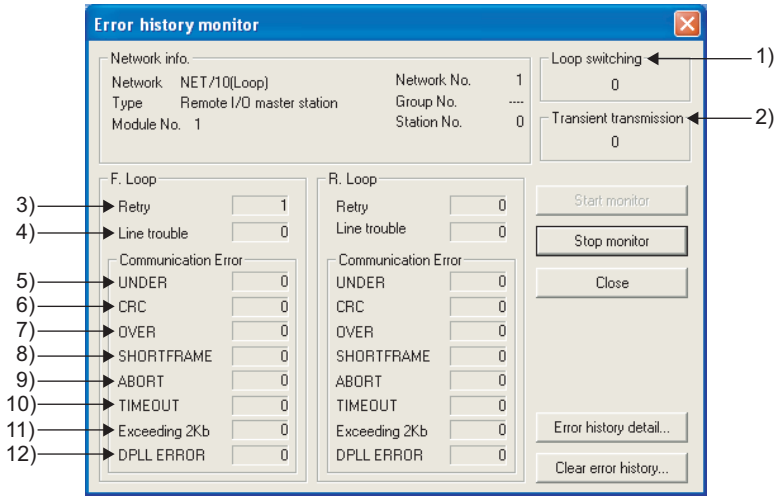
(3) Reason for transmission stop

Item	Description
Normal	Data communications are being performed normally.
There is a stop instruction (All)	The cyclic transmission of all the stations has been stopped by the host station or other stations.
There is a stop instruction (Host)	The cyclic transmission of the host station has been stopped.
Stop instruction present (☐)	The cyclic transmission of the host station has been stopped by other stations (station number ☐).
No Parameter	The parameters have not been received.
Illegal Parameter	The set common parameters are faulty.
Host PLC Error	A moderate error or major error has occurred in the CPU module of the host station.
Suspend Communication	A data link error has occurred in the host station.

7.2.4 Error history monitor

(1) Error history monitor

The history of forward/reverse loop errors, communication errors, and transient transmission errors can be checked. The details of the error history can be displayed and the error history can be cleared.



No.	Item	SB/SW	Description
—	Network info.	—	The information same as "Host information" is displayed. (☞ Page 75, Section 7.2.1)
1)	Loop switching	SW00CE	The number of loop switchings is displayed. <Cause> Such as power-on/off of a station, a cable error, and noise <Action> Refer to Point in the next page.
2)	Transient transmission	SW00EE	The number of the transient transmission errors is displayed. <Cause> Such as power-off of the target station, down of the CPU module of the target station, a cable error, and noise <Action> Check the error code for the transient transmission error on the Error history detail monitoring window, and take the corrective action referring to Page 88, Section 7.4.

No.	Item		SB/SW	Description
3)	F. Loop R. loop	Retry	SW00C8 SW00C9	The number of retries (communication retries in communication error) is displayed. <Cause> Such as power-on/off of a station, a cable error, and noise <Action> Refer to Point.
4)		Line trouble	SW00CC SW00CD	The number of line errors is displayed. <Cause> Such as power-off of the adjacent station, a cable error, and noise <Action> Refer to Point.
5)		UNDER	SW00B8 SW00C0	The number of UNDER errors is displayed. <Cause> Such as power-on/off of the adjacent station and a cable error <Action> Refer to Point.
6)		CRC	SW00B9 SW00C1	The number of CRC errors is displayed. <Cause> Such as disconnection of the station which sends data to the corresponding station, a cable error, hardware failure, and noise <Action> Refer to Point.
7)		OVER	SW00BA SW00C2	The number of OVER errors is displayed. <Cause> Such as an cable error, hardware failure, and noise <Action> Refer to Point.
8)		SHORTFRAME	SW00BB SW00C3	The number of short frame errors (the message is too short) is displayed. <Cause> Such as an cable error, hardware failure, and noise <Action> Refer to Point.
9)		ABORT	SW00BC SW00C4	The number of AB.IF errors is displayed. <Cause> Such as disconnection of the station which sends data to the corresponding station, a cable error, hardware failure, and noise <Action> Refer to Point.
10)		TIMEOUT	SW00BD SW00C5	The number of timeout errors is displayed. <Cause> Such as monitoring time shortage, a cable error, and noise <Action> Refer to Point.
11)		Exceeding 2Kb	SW00BE SW00C6	The number of receive errors (the data received is more than 2000 bytes) is displayed. <Cause> Such as an cable error, hardware failure, and noise <Action> Refer to Point.
12)		DPLL ERROR	SW00BF SW00C7	The number of DPLL errors is displayed. <Cause> Such as an cable error, hardware failure, and noise <Action> Refer to Point.

Point

The number of errors is not actually a problem as long as the number does not increase frequently during the operation.
If the number of errors, however, increases frequently, take the following action.

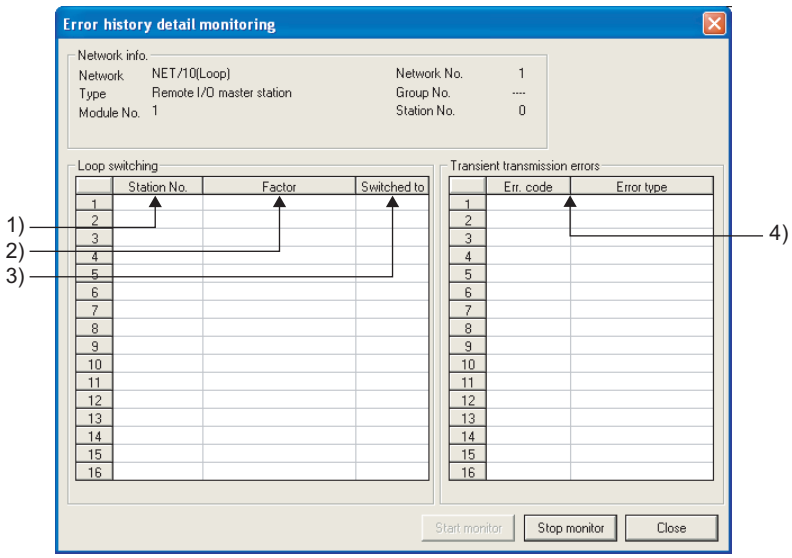
- Check the power-on/off status of the host station and other stations.
- Check the connector for disconnection and looseness; and the cable for disconnection and length.

  Reference manual for the network module used

  User's manual for the CPU module used
- Perform the forward/reverse loop test from the remote master station (in the optical loop system).

(2) Error history detail monitoring

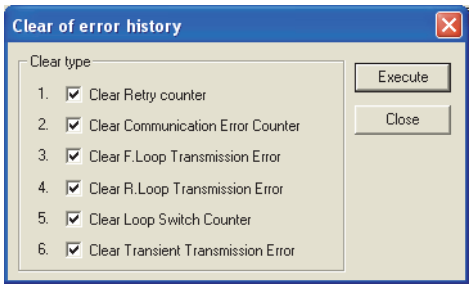
The cause of loop switching and history of the transient transmission error are displayed.



No.	Item		SB/SW	Description
—	Network info.		—	The information same as "Host information" is displayed. (☞ Page 75, Section 7.2.1)
1)	Loop switching	Station No.	SW00E0 to SW00E7	The station number which requested loop switching or loopback is displayed. (The station is not always the adjacent one.)
2)		Factor	SW00D0 to SW00DF	The factor for the loop switching or loopback is displayed.
3)		Switched to	SW00D0 to SW00DF	The data link status after loop switching is displayed.
4)	Transient transmission errors	Err. code, Error type	SW00F0 to SW00FF	The error code is displayed. (☞ Page 88, Section 7.4)

(3) Clear of error history

To clear error history, check the checkbox of the clear-target error history on the Clear of error history window. (Multiple items can be selected.)



7.3 Troubleshooting by Symptom

7.3.1 Items checked first

Check item	Check procedure
Has the error reset processing been performed using SM50 or SD50 after the online module change was executed on the MELSECNET/H (MELSECNET/10 mode) remote I/O station?	Perform the error reset processing after online module change.
Is the ERR. contact of the power supply module on the MELSECNET/H (MELSECNET/10 mode) remote I/O station on?	If the ERR. contact of the power supply module on the MELSECNET/H (MELSECNET/10 mode) remote I/O station is off, check the status of the power supply connected to the power supply module on the MELSECNET/H (MELSECNET/10 mode) remote I/O station. Or, check if a stop error exists in the MELSECNET/H remote I/O module using GX Developer. Note that the ERR. contact temporary turns off while the remote I/O module receives parameters from the remote master station after parameters set for the MELSECNET/H (MELSECNET/10 mode) remote I/O station were changed. (The ERR. contact turns on when the module has received all the required parameters and is ready for starting communications.)
Check the communication status of each station by performing network diagnostics using a peripheral.	Check the CPU module status, network module status, and loop status on the communication error station, and identify the error location. (☞ Page 75, Section 7.2)
Is the POWER LED of the power supply module on the communication error station on?	If the POWER LED is off, check if any of the following problems occurs: insufficient supply voltage to the power supply module, insufficient power capacity, overvoltage, or failure of the power supply module.
Is the RUN LED of the CPU module on the remote master station on?	If the RUN LED is off or flashing, read the error code using a peripheral and take corrective action for the error. (For errors and corrective actions, refer to the user's manual for the CPU module used.)
Is the LED status of the network module correct?	Check the LED status of each station and take corrective action for the error. If the status of T.PASS LED is unstable, the line status may be unstable. Check the following. • The status of connectors and cables • Whether the cables that meet the specifications are used • Whether the overall cable distance and station-to-station distance are within the specifications range (☞ Page 23, Section 3.1)

7.3.2 Items checked when data link cannot be performed throughout the system

Check item	Check procedure
Check the communication status of each station by performing network diagnostics using a peripheral.	• If an optical loop system is configured, check the line status with the loop test. (☞ Page 44, Section 4.4.1) • Check the status of the CPU module and network module on the communication error station. • Check the status of the network module and cables with the self-loopback test and station-to-station test. (☞ Page 40, Section 4.3.1) • Check if the data link stop status is set to all stations.
Are network parameters set to the remote master station?	Read the network parameters from the CPU module on the remote master station, and check if they are set correctly.
Are the switch settings of the network module correct?	Set switches such as the network number setting switches, station number setting switches, mode setting switch, and condition setting switch.
Is the “Monitoring time” setting correct?	Set the maximum value to the “Monitoring time” parameter, and check if data link is performed properly.
Has the remote master station been down?	Check the LED status of the MELSECNET/10 remote master module.

7.3.3 Items checked when data link is disabled by resetting or powering off a station

Check item	Check procedure
Are the cables wired properly?	Check the wiring status with the loop test. (☞ Page 44, Section 4.4.1)
Are the cables connected properly?	Check the status of each station, and identify the error location (whether the entire system is faulty or a cirtain station is faulty).
Are the switch settings of the network module correct?	• Check if the station number setting switches, mode setting switch, and condition setting switch of the MELSECNET/10 remote I/O module are set within the range. If the settings are out of the range, correct them. • Check if the station number setting switches of the MELSECNET/H remote I/O module is set within the range. If the setting is out of the range, correct it. Also, check if the mode setting switch is set to "8".
Is the “Monitoring time” setting correct?	Set the maximum value to the “Monitoring time” parameter, and check if data link is performed properly. Check if the following LED on the remote I/O station is on. • MELSECNET/10 remote I/O station: TIME LED • MELSECNET/H (MELSECNET/10 mode) remote I/O station: L ERR. LED

7.3.4 Items checked when data link cannot be performed on a certain station

Check item	Check procedure
Check the communication status of each station.	Check the loop status and presence of any communication error station by performing network diagnostics. (☞ Page 75, Section 7.2) Also, Check if the data link stop status is set to the station. If an optical loop system is configured, check the line status and communication status of each station with the loop test. (☞ Page 44, Section 4.4.1)
Does the network module on the communication error station operate properly?	Check if an error or failure exists in the CPU module or network module on the communication error station.
Check the cause of the loop failure.	Check if the network module operates normally with the self-loopback test. (☞ Page 40, Section 4.3.1) Check if the cables operate normally with the station-to-station test.
Are the parameters of the remote master station correct?	Check if the total number of link stations set in network parameter is greater than the greatest station number set to the connected stations. Check if the station actually connected is not set as a reserved station in parameter.
Are the parameters of the error station correctly set?	Read the network parameters from the CPU module on the communication error station, and check if the number of modules and the refresh parameter are set correctly.
Are the switch settings of the network module correct?	• Check if the station number setting switches, mode setting switch, and condition setting switch of the MELSECNET/10 remote I/O module are set within the range. If the settings are out of the range, correct them. • Check if the station number setting switches of the MELSECNET/H remote I/O module is set within the range. If the setting is out of the range, correct it. Also, check if the mode setting switch is set to "8".
Is the link cable connected properly?	Check the line status by performing network diagnostics. (☞ Page 75, Section 7.2) If an optical loop system is configured, check the line status with the loop test. (☞ Page 44, Section 4.4.1)

7.3.5 Items checked when an communication data error is detected

(1) Cyclic transmission

Check item	Check procedure
Is the sequence program correct?	Change the operating status of the CPU module on the remote master station to STOP, and forcibly turn on the link devices to be sent to the remote I/O stations with the device test of the peripheral. If the remote I/O stations receive correct data, modify the sequence program. If the remote I/O stations do not receive correct data, change the network parameter and refresh parameter settings.
Are the parameters of the remote master station correct?	Check the link device range and I/O assignment of the remote master station. Also, check the refresh parameter setting to see if the devices used in the sequence program are consistent with the LX/LY range set to the remote master station. If they are inconsistent, correct the refresh parameter setting or modify the sequence program.

(2) Transient transmission

Check item	Check procedure
Has any error occurred at transient transmission execution?	Check the error code at the transient transmission execution and take corrective action. (☞ Page 91, Section 7.4.2)
Is the targeted station number within the range?	Check if the targeted station number is within the range.
Has a redundant system been configured on the relay station?	Add a program to change the routing parameter upon switching of the system to the sequence program for the redundant system.
Has a stop error occurred in the CPU module on the target station or relay station?	Identify the station where the stop error has occurred with the communication test, and take corrective action. (☞ Page 47, Section 4.4.4)
Is a unique network number assigned to each network between the master station and the target station?	Check the network route between the master station and the target station with the communication test, and identify the faulty station. (☞ Page 47, Section 4.4.4)
Are the routing parameter settings correct?	Identify the station where the routing parameter setting is incorrect with the communication test. (☞ Page 47, Section 4.4.4)

7.3.6 Items checked when a link dedicated instruction does not complete

Check item	Check procedure
Is the mode of the remote master station set to offline?	Set the mode of the remote master station to online and execute the link dedicated instruction again. Add SB0043 (Online switch (host)) as an interlock for execution of the link dedicated instruction so that the instruction is not executed offline.
Are the certain LB/LW areas used only for the link dedicated instruction?	Check and correct the sequence program or refresh parameter settings so that the certain LB/LW areas are used only for the link dedicated instruction.

7.4 Error Codes

When an error such as a data link failure occurs, the cause can be identified by error codes.

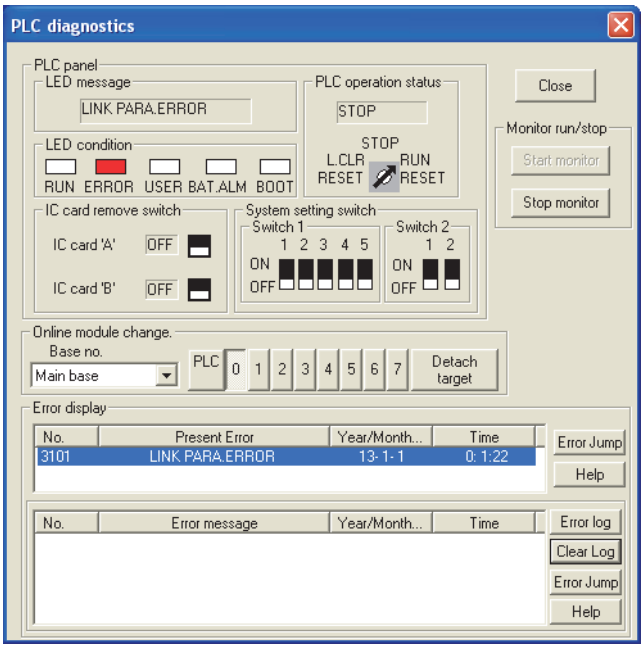
7.4.1 Checking error codes

GX Developer or GX Works2 is used to check error codes.
In addition, error codes can be checked in the link special register (SW) or with the completion status of the dedicated instructions.

(1) Checking an error on the remote master station

An error can be checked in the "PLC diagnostics" window of GX Developer.

[Diagnostics] ⇨ [PLC diagnostics]



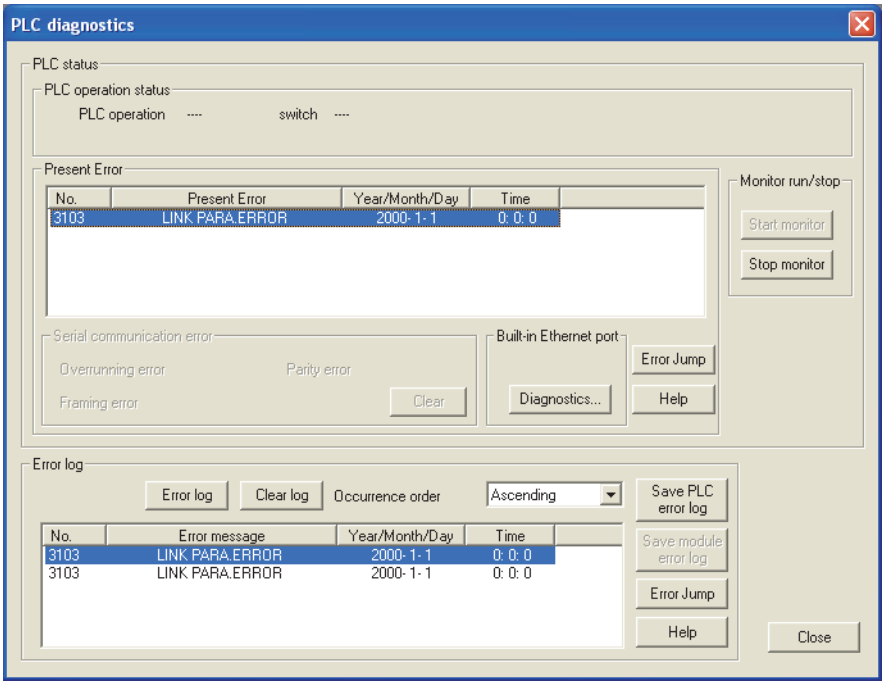
(2) Checking an error on the MELSECNET/H (MELSECNET/10 mode) remote I/O station

Open the “System monitor” window to identify the module where the error has occurred.

(a) When an error has occurred in the MELSECNET/H remote I/O module

Check the error in the "PLC diagnostics" window.

[Diagnostics] ⇨ [PLC diagnostics]



If an error has occurred before the MELSECNET/H (MELSECNET/10 mode) remote I/O station receives the clock data from the remote master station, the corresponding error time is displayed as January 1, 2000, 0:0:0. If the communications are interrupted due to cable disconnection or any possible cause, the clock data will no longer be updated.

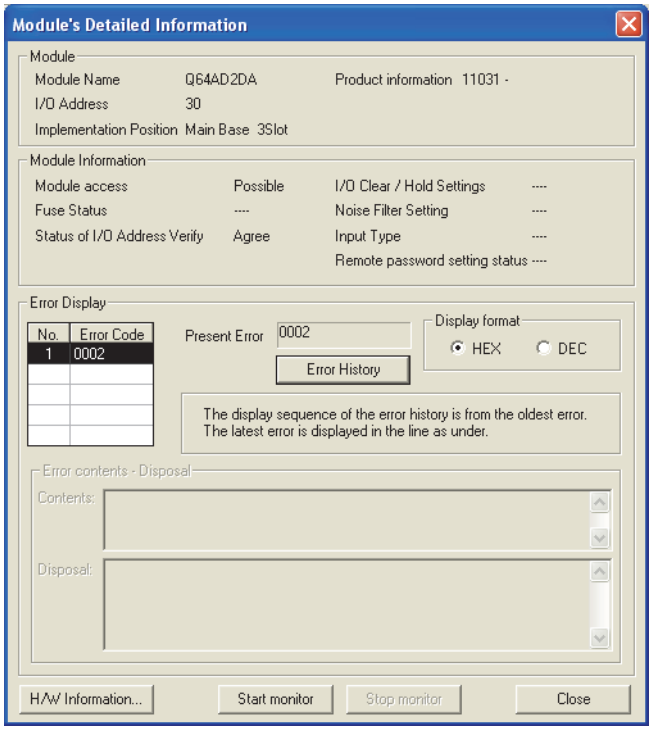
Point

The error time stored starts from "January 1, 2000 at 00:00:00".
For example, "January 1, 2000 at 12:00:00" indicates that the error occurred 12 hours after the power-on.

(b) When an error occurs in a module other than the MELSECNET/H remote I/O module

Open the "Module's Detailed Information" window to check the error.

[Diagnostics] ⇨ [System monitor] ⇨ [Module's Detailed Information]



(3) Checking the corresponding error code in a device

Error causes can be checked in the link special register (SW).

Link special register	Description
SW0020	Module status
SW0048	Cause of baton pass interruption
SW0049	Cause of data link stop
SW004B	Host CPU status
SW004D	Data linking start status (host)
SW004F	Data linking stop status (host)
SW0051	Data linking start status (entire system)
SW0053	Data linking stop status (entire system)
SW0055	Parameter setting status
SW00EE	Transient transmission error
SW00EF	Transient transmission error pointer
SW00F0 to SW00FF	Transient transmission error history
SW01C4	Remote sub-master station switching result

(4) Storage areas for the error codes of dedicated instructions

The error codes of the errors that occur at the execution of the dedicated instructions are stored in the completion status (S1)+1 of the control data or the link special register (SW) of the remote master station as well as the MELSECNET/10 remote I/O network. (Reference manual for the MELSECNET/10 network system used)

7.4.2 Error code list of MELSECNET/10

The following table lists the error codes that are specific to the MELSECNET/H (MELSECNET/10 mode) remote I/O station and that are not for the MELSECNET/10 remote I/O network.

For the other error codes, refer to the following.

Reference manual for the MELSECNET/10 network system used

Error code	Description	Corrective action
F224	Receive data size error	The cause is a failure of a module on the transient transmission source station. Please consult your local Mitsubishi representative.
F226	Channel number error	Check the target-station storage channel (logic channel number) in the control data on the station executing the SEND instruction.
F228	SEND instruction target station error	Check the target-station network number or the target station number in the control data on the station executing the SEND instruction.
F7E1	Control data error	Check the set values (such as mode) in the control data of the dedicated instruction.
F7E2	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
F7E3	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
F7E5	Post-transmission event wait timer time-out	Wait for a while and execute the REMFR/REMTO instruction again. Check the operating status and network status of the target station, and the relay station status (when sending the data to another network).
F7E7	Buffer memory address error	Check if the buffer memory address specified in the REMFR/REMTO instruction is greater than 8000_H.
F7E8	Network type error	Check if the network number specified in the REMFR/REMTO instruction is not a PLC to PLC network.
F7E9	Instruction not executable error	Check if the data link of the host station is performed normally when the REMFR/REMTO instruction is executed.
F82B	Network type mismatch error (control station detected)	Change the network type of the normal station to the one set for the control station.
F82C	Parameter receive error	Change the system configuration because the parallel master system is unavailable.
FD23	Data comparison error	Check if a faulty cable, hardware failure, miswiring, terminating resistor problem (in a coaxial bus system), station number overlapping, or the control station overlapping exists.
FD24	Retry over	Check if a faulty cable, hardware failure, miswiring, terminating resistor problem (in a coaxial bus system), station number overlapping, or the control station overlapping exists.
FD26	Light quantity error on the forward loop	The cause is a faulty cable. Connect a proper cable and perform the online test.
FD27	Light quantity error on the reverse loop	The cause is a faulty cable. Connect a proper cable and perform the online test.
FD28	RAM check error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FD29	ROM check error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FD2A	Timer function check error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FD2B	WDT function check error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.

Error code	Description	Corrective action
FD37	Another online test in execution	Wait for a while and retry transmission. Check the corresponding station and line status.
FE27	System error	The cause is a failure of the CPU module or network module. Please consult your local Mitsubishi representative.
FE28	Response frame error	The cause is a failure of the network module on the host station or the transient transmission target station. Please consult your local Mitsubishi representative.
FE30	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FE31	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FE32	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FE34	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FE36	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FE37	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FE38	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FE39	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FE3B	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FE3C	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FE3D	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FE3E	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.
FE3F	System error	The cause is a failure of the network module. Please consult your local Mitsubishi representative.

7.4.3 Error code list of the errors that the remote I/O station detects as well as a CPU module does

The MELSECNET/H (MELSECNET/10 mode) remote I/O station performs some operations that are the same as those of a CPU module. Therefore, the same error codes*1 are detected in the MELSECNET/H (MELSECNET/10 mode) remote I/O station and a CPU module.

When an error occurs, the corresponding error code*2 can be read using GX Developer.
For detailed operation of GX Developer, refer to the operating manual for GX Developer used.

*1 The error codes of a CPU module are classified into three levels.
- Minor error: Errors that allow a CPU module to continue its operation, such as a battery error (Error code: 1300 to 10000)
- Moderate error: Errors that may cause a CPU module to stop its operation, such as a WDT error (Error code: 1300 to 10000)
- Major error: Errors that may cause a CPU module to stop its operation, such as a RAM error (Error code: 1000 to 1299)

Whether the CPU module continues or stops its operation can be checked in the Remote I/O operation status column of the Error code list.

*2 If an error that is not on the error code list is detected, please consult your local Mitsubishi representative.

The following table lists the error codes.

Error code (SD0)	Error contents and cause	Corrective action	LED status, Remote I/O operation status
1000	**[MAIN CPU DOWN]** Runaway or failure of the remote I/O module • Malfunction due to noise or other causes • Hardware failure **■Collateral information** • Common Information (SD5 to SD15): - • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • Always	• Take noise reduction measures. • Reset the remote I/O module. If the same error code is displayed again, the cause is a hardware failure of the remote I/O module. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop
1005	**[MAIN CPU DOWN]** Runaway or failure of the remote I/O module • Malfunction due to noise or other causes • Hardware failure **■Collateral information** • Common Information (SD5 to SD15): - • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • Always	• Take noise reduction measures. • Reset the remote I/O module. If the same error code is displayed again, the cause is a hardware failure of the remote I/O module. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop
1009	**[MAIN CPU DOWN]** • The voltage waveform that is outside the specification is applied to the power supply module, and an error is detected. • A failure was detected on the power supply module, remote I/O module, main base unit, or extension cable. • When using the redundant base unit, the redundant power supply module failure in both systems is detected. **■Collateral information** • Common Information (SD5 to SD15): - • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • Always	• Correct the voltage waveform applied to the power supply module. • Reset the remote I/O module. If the same error code is displayed again, the cause is a hardware failure of the remote I/O module. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop
1109	**[RAM ERROR]** The work area RAM in the remote I/O module is faulty. **■Collateral information** • Common Information (SD5 to SD15): - • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • Always	The cause is a hardware failure of the remote I/O module. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop
1300	**[FUSE BREAK OFF]** There is an output module with a blown fuse. **■Collateral information** • Common Information (SD5 to SD15): Network No./Station No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • Always	Check the FUSE. LED of the output modules and replace the module whose LED is on. (A blown fuse can be identified using GX Works2 or GX Developer. Check the special register, SD1300 to SD1331, to see if the bit corresponding to the module with a blown fuse is set to "1".)	REM: Off ERR: On Remote I/O status: Stop/Continue[*1]
1401	**[SP.UNIT DOWN]** • There was no response from the intelligent function module in the initial processing. • The size of the buffer memory of the intelligent function module is invalid. • The unsupported module is mounted. **■Collateral information** • Common Information (SD5 to SD15): Module No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • At power-on/At reset[*2]/When intelligent function module is accessed	If an unsupported module is mounted, remove it. When only supported modules are mounted, the cause is a hardware failure of the intelligent function module, remote I/O module, or base unit. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop/Continue[*1]

Error code (SD0)	Error contents and cause	Corrective action	LED status, Remote I/O operation status
1403	**[SP.UNIT DOWN]** • There was no response from the intelligent function module. • An error is detected at the intelligent function module. • The I/O module (intelligent function module) is nearly removed, completely removed, or mounted during running. **■Collateral information** • Common Information (SD5 to SD15): Module No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • Always	The cause is a failure of the remote I/O module, base unit, or intelligent function module in the access destination. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop/Continue*1
1413	**[CONTROL-BUS.ERR.]** An error is detected on the system bus. • Self-diagnostic error in the system bus • Self-diagnostic error in the remote I/O module **■Collateral information** • Common Information (SD5 to SD15): - • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • Always	Reset the remote I/O module. If the same error code is displayed again, the cause is a failure of the intelligent function module, remote I/O module, or base unit. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop
1414	**[CONTROL-BUS.ERR.]** An error is detected on the system bus. **■Collateral information** • Common Information (SD5 to SD15): Module No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • Always	Reset the remote I/O module. If the same error code is displayed again, the cause is a failure of the intelligent function module, remote I/O module, or base unit. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop
1415	**[CONTROL-BUS.ERR.]** Fault of the main or extension base unit was detected. **■Collateral information** • Common Information (SD5 to SD15): Base No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • Always	Reset the remote I/O module. If the same error code is displayed again, the cause is a failure of the intelligent function module, remote I/O module, or base unit. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop
1510	**[SINGLE PS. DOWN]** The power supply voltage of either of redundant power supply modules on the redundant base unit dropped. **■Collateral information** • Common Information (SD5 to SD15): Base No./Power supply No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • Always	Check the power supplied to the redundant power supply modules mounted on the redundant base unit.	REM: Off ERR: On Remote I/O status: Continue
1520	**[SINGLE PS. ERROR]** On the redundant base unit, the one damaged redundant power supply module was detected. **■Collateral information** • Common Information (SD5 to SD15): Base No./Power supply No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • Always	The cause is a hardware failure of the redundant power supply module. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Continue
1610	**[FLSH ROM ERROR]** The number of writing to flash ROM (error history) exceeds 100,000 times. (Number of writings > 100,000 times) **■Collateral information** • Common Information (SD5 to SD15): - • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • When writing to ROM	Change the remote I/O module.	REM: Off ERR: On Remote I/O status: Continue

Error code (SD0)	Error contents and cause	Corrective action	LED status, Remote I/O operation status
2000	**[UNIT VERIFY ERR.]** • The I/O module status is different from the I/O module information at power ON. • The I/O module (or intelligent function module) is nearly removed, completely removed, or mounted during running. **■Collateral information** • Common Information (SD5 to SD15): Network No./Station No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • Always	• Read common information of the error using GX Works2 or GX Developer to identify the numeric value (module No.). Check the module corresponding to the value and replace it as necessary. • Monitor the special register SD1400 to SD1431 using GX Works2 or GX Developer to identify the module whose data bit is "1". Then check the module and replace it as necessary.	REM: Off ERR: On Remote I/O status: Stop/Continue*1
2011	**[BASE LAY ERROR]** The QA1S6□B or QA6□B was used as the base unit. **■Collateral information** • Common Information (SD5 to SD15): Base No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • At power-on/At reset*2	Do not use the QA1S6□B or QA6□B as the base unit.	REM: Off ERR: On Remote I/O status: Stop
2100	**[SP. UNIT LAY ERR.]** • In the I/O Assignment tab of the PLC parameter dialog box, "Intelligent" (intelligent function module) is set for the slot where an I/O module is mounted, and vice versa. • In the I/O assignment setting of the PLC parameter, switch setting was made to the module that has no switch setting. • In the I/O assignment setting of the PLC parameter dialog box, the number of points assigned to the intelligent function module is less than the number of points of the mounted module. [NET/10 mode] • In the I/O Assignment tab of the PLC parameter dialog box or the I/O assignment setting of the network parameter, "Intelligent" (intelligent function module or special function module) is set for the slot where an I/O module is mounted, and vice versa. • In the I/O assignment setting of the PLC parameter, switch setting was made to the module that has no switch setting. • In the I/O assignment setting of the PLC parameter dialog box or the I/O assignment setting of the network parameter, the number of points assigned to the intelligent function module (special function module) is less than the number of points of the mounted module. **■Collateral information** • Common Information (SD5 to SD15): Module No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • At power-on/At reset*2	• Set the I/O assignment again so that the setting matches with the mounting status of the intelligent function module or the remote I/O module. • Delete the switch setting in the I/O assignment setting of the PLC parameter. [NET/10 mode] • Set the I/O assignment of the PLC parameter or the I/O assignment of the network parameter again so that the setting matches with the mounting status of the intelligent function module (special function module) or the remote I/O module. • Delete the switch setting in the I/O assignment setting of the PLC parameter.	REM: Off ERR: On Remote I/O status: Stop
2103	**[SP.UNIT LAY ERR.]** The QI60 is mounted. **■Collateral information** • Common Information (SD5 to SD15): Module No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • At power-on/At reset*2	Remove the QI60.	REM: Off ERR: On Remote I/O status: Stop
2106	**[SP.UNIT LAY ERR.]** • Five or more Q series Ethernet modules are mounted. • 65 or more Q series CC-Link modules are mounted. **■Collateral information** • Common Information (SD5 to SD15): Module No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • At power-on/At reset*2	• Reduce the number of the Q series Ethernet modules to four or less. • Reduce the number of the Q series CC-Link modules to 64 or less.	REM: Off ERR: On Remote I/O status: Stop

Error code (SD0)	Error contents and cause	Corrective action	LED status, Remote I/O operation status
2107	**[SP.UNIT LAY ERR.]** The start X/Y set in the PLC parameter's I/O assignment settings is overlapped with the one for another module. **■Collateral information** • Common Information (SD5 to SD15): Module No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • At power-on/At reset*2	Configure the I/O assignment setting of the PLC parameter again so that it is consistent with the actual status of the intelligent function modules and I/O modules.	REM: Off ERR: On Remote I/O status: Stop
2121	**[SP.UNIT LAY ERR.]** The CPU module is mounted on the base unit. **■Collateral information** • Common Information (SD5 to SD15): Module No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • At power-on/At reset*2	Do not install the remote I/O module and CPU module in the same system.	REM: Off ERR: On Remote I/O status: Stop
2122	**[SP.UNIT LAY ERR.]** The QA1S6□B or QA6□B is used as the main base unit. **■Collateral information** • Common Information (SD5 to SD15): - • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • At power-on/At reset*2	Replace the main base unit with a usable one.	REM: Off ERR: On Remote I/O status: Stop
2124	**[SP.UNIT LAY ERR.]** • A module is mounted on the 65th slot or later slot. • A module is mounted on the slot whose number is greater than the number of slots specified at [Slots] in [Standard setting] of the base setting. • A module is mounted on the slot whose number of I/O points exceeds 4096 points. • A module is mounted on the slot whose number of I/O points strides 4096 points. **■Collateral information** • Common Information (SD5 to SD15): - • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • At power-on/At reset*2	• Remove the module mounted on the 65th slot or later slot. • Remove the module mounted on the slot whose number is greater than the number of slots specified at [Slots] in [Standard setting] of the base setting. • Remove the module mounted on the slot whose number of I/O points exceeds 4096 points. • Replace the module with the one whose number of occupied points does not exceed 4096 points.	REM: Off ERR: On Remote I/O status: Stop
2125	**[SP.UNIT LAY ERR.]** • A module which the QCPU cannot recognize has been mounted. • There was no response from the intelligent function module. **■Collateral information** • Common Information (SD5 to SD15): Module No. • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • At power-on/At reset*2	• Mount an applicable module. • The cause is a failure of the intelligent function module. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop
3000	**[PARAMETER ERROR]** • The PLC parameter setting for “Points occupied by empty slot” is outside the range for the remote I/O module. • The parameter setting in the individual information of the error (the special register SD16) is invalid. **■Collateral information** • Common Information (SD5 to SD15): File name • Individual Information (SD16 to SD26): Parameter number **■Diagnostic Timing** • At power-on/At reset*2	• Read the individual information of the error using GX Works2 or GX Developer to identify the numeric value (parameter number). Check the parameters corresponding to the value, and correct them as necessary. • Rewrite corrected parameters to the remote I/O module, reload the power supply of the remote I/O module and/or reset the module. • If the same error occurs, the cause is a hardware failure. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop

Error code (SD0)	Error contents and cause	Corrective action	LED status, Remote I/O operation status
3001	**[PARAMETER ERROR]** The parameter settings are corrupted. **■Collateral information** • Common Information (SD5 to SD15): File name • Individual Information (SD16 to SD26): Parameter number **■Diagnostic Timing** • At power-on/At reset*2	• Read the individual information of the error using GX Works2 or GX Developer to identify the numeric value (parameter number). Check the parameters corresponding to the value, and correct them as necessary. • Rewrite corrected parameters to the remote I/O module, reload the power supply of the remote I/O module and/or reset the module. If the same error occurs, the cause is a hardware failure. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop
3103	**[LINK PARA. ERROR]** • Although one or more Ethernet modules were configured in the Network Parameter dialog box, no Ethernet module is mounted in the system. • The start I/O number of the Ethernet network parameter differs from that of the actually mounted module. **■Collateral information** • Common Information (SD5 to SD15): File name • Individual Information (SD16 to SD26): Parameter number **■Diagnostic Timing** • At power-on/At reset*2	• Correct and write the network parameters. • If an error occurs again even after it is corrected, the cause is a hardware failure. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop
3104	**[LINK PARA. ERROR]** • The network number, station number or group number set in the network parameter is out of range. • The specified I/O number is outside the range of the used remote I/O module. • The Ethernet-specific parameter settings are incorrect. **■Collateral information** • Common Information (SD5 to SD15): File name • Individual Information (SD16 to SD26): Parameter number **■Diagnostic Timing** • At power-on/At reset*2	• Correct and write the network parameters. • If an error occurs again even after it is corrected, the cause is a hardware failure. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop
3105	**[LINK PARA. ERROR]** • Although one or more CC-Link modules were configured in the Network Parameter dialog box, no CC-Link module is mounted in the system. • The start I/O number in the common parameter differs from that of the actually mounted module. • The station type of the CC-Link module network parameter differs from that of the actually mounted station. **■Collateral information** • Common Information (SD5 to SD15): File name • Individual Information (SD16 to SD26): Parameter number **■Diagnostic Timing** • At power-on/At reset*2	• Correct and write the network parameters. • If an error occurs again even after it is corrected, the cause is a hardware failure. (Please consult your local Mitsubishi representative.)	REM: Off ERR: On Remote I/O status: Stop
3106	**[LINK PARA. ERROR]** The network refresh parameter for CC-Link is out of range. **■Collateral information** • Common Information (SD5 to SD15): File name • Individual Information (SD16 to SD26): Parameter number **■Diagnostic Timing** • At power-on/At reset*2	Check the parameter setting.	REM: Off ERR: On Remote I/O status: Stop
3107	**[LINK PARA. ERROR]** • The CC-Link parameter setting is incorrect. • The set mode is not allowed for the version of the mounted CC-Link module. **■Collateral information** • Common Information (SD5 to SD15): File name • Individual Information (SD16 to SD26): Parameter number **■Diagnostic Timing** • At power-on/At reset*2	Check the parameter setting.	REM: Off ERR: On Remote I/O status: Stop

Error code (SD0)	Error contents and cause	Corrective action	LED status, Remote I/O operation status
3300	**[SP. PARA. ERROR]** The start I/O number in the intelligent function module parameter set on GX Works2 or GX Configurator differs from the actual I/O number. **■Collateral information** • Common Information (SD5 to SD15):File name • Individual Information (SD16 to SD26):Parameter number **■Diagnostic Timing** • At power-on/At reset*2	Check the parameter setting.	REM: Off ERR: On Remote I/O status: Stop
3301	**[SP. PARA. ERROR]** The intelligent function module's refresh parameter setting is outside the available range. **■Collateral information** • Common Information (SD5 to SD15): File name • Individual Information (SD16 to SD26): Parameter number **■Diagnostic Timing** • At power-on/At reset*2	Check the parameter setting.	REM: Off ERR: On Remote I/O status: Stop
3400	**[REMOTE PASS. ERR.]** The start I/O number of the remote password target module is set to other than 0_H to $0FF0_H$. **■Collateral information** • Common Information (SD5 to SD15): - • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • At power-on/At reset*2	Change the start I/O number of the target module to be within the 0_H to $0FF0_H$ range.	REM: Off ERR: On Remote I/O status: Stop
3401	**[REMOTE PASS. ERR.]** Any of the following modules is not mounted on the slot specified by the start I/O number of the remote password target module. • Serial communication module whose function version B or later • Ethernet module whose function version B or later **■Collateral information** • Common Information (SD5 to SD15): - • Individual Information (SD16 to SD26): - **■Diagnostic Timing** • At power-on/At reset*2	Mount a serial communication module or Ethernet module whose function version B or later in the specified slot.	REM: Off ERR: On Remote I/O status: Stop

*1 The operation status of the remote I/O station at error occurrence can be set in a parameter.

*2 The remote I/O station can be reset by the following operation.

- Reset the MELSECNET/H remote I/O module.
- Power on the MELSECNET/H remote I/O module.
- Reset, switch from STOP to RUN, or power on the CPU module in the remote master station if the parameters of the remote I/O station are not corrected and the remote I/O station is not reset.
- Reset, switch from STOP to RUN, or power on the CPU module in the remote master station if a stop error exists in the remote I/O station.

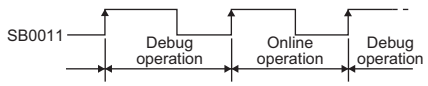
APPENDICES

Appendix 1 Link Special Relay (SB)

This section describes the link special relay areas added to the MELSECNET/H (MELSECNET/10 mode) remote I/O station. The list provides only the link special relay areas added.

For other link special relay areas, refer to the following.

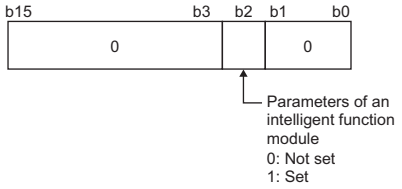
Reference manual for the MELSECNET/10 network system used

No.	Name	Description	Availability					
			Remote master station		MELSECNET/10 remote I/O station		MELSECNET/H (MELSECNET/10 mode) remote I/O station	
			Optical	Coaxial	Optical	Coaxial	Optical	Coaxial
SB0011	Data link operation specification	This relay instructs the data link operation. • OFF: No switching instruction • ON: Switching instructed (enabled at the rising edge) Upon turning on of this relay, the data link status changes from the online (normal data link) operation to the online (debug) operation, or from the online (debug) operation to the online (normal data link) operation. 	×	×	×	×	○	○
SB0046	Data link operation specification result (host)	This relay indicates the switch setting information (including the parameter setting) of the network module on the host station. • OFF: Normal data link being performed • ON: Being operated in debug mode	×	×	×	×	○	○

Appendix 2 Link Special Register (SW)

This section describes the link special register areas added to or changed for the MELSECNET/H (MELSECNET/10 mode) remote I/O station. The list provides only the link special relay areas added or changed.
For other link special register areas, refer to the following.

Reference manual for the MELSECNET/10 network system used

No.	Name	Description	Availability					
			Remote master station		MELSECNET/10 remote I/O station		MELSECNET/H (MELSECNET/10 mode) remote I/O station	
			Optical	Coaxial	Optical	Coaxial	Optical	Coaxial
SW0045*1	Switch setting status	This register stores the switch setting status. • 0: Normal • 1 and later: Error (error code)	○	○	○	○	○	○
SW0054	Parameter information	This register stores the parameter setting status (when SB0054 and SB0055 are off). 	×	×	×	×	○	○

*1 This is the link special register (SW) added to the MELSEC-QnA series MELSECNET/10 remote I/O network.

Appendix 3 Special Relay (SM) for MELSECNET/H (MELSECNET/10 Mode) Remote I/O Station

The special relay (SM) is an internal relay whose specification is fixed in the programmable controller. For this reason, the special relay cannot be used in the same way as other internal relays used in sequence programs. However, the bit of the special relay can be turned on or off as needed to control the CPU module or the MELSECNET/H remote I/O module. To monitor and turn on or off the bit of the special relay of the MELSECNET/H remote I/O module, use GX Developer. Connect GX Developer to the remote master station or the MELSECNET/H (MELSECNET/10 mode) remote I/O station to perform monitoring and device tests.
The list in this section provides only the special relay areas related to the MELSECNET/H remote I/O module. The following table shows how to read the special relay list.

Item	Description
No.	Special relay number
Name	Special relay name
Meaning	Description of special relay
Explanation	Detailed description of special relay
Set by (When Set)	Set side and set timing of special relay <Set by> • S: Set by system • U: Set by user (using a sequence program or test operation by a peripheral) • S/U: Set by both system and user <When Set> The following shows the set timing when the special register is set by system. • Every END processing: Set during every END processing • Initial: Set during initial processing (after power-on or status change from STOP to RUN) • Status change: Set when the operating status is changed • Error: Set if an error occurs • Instruction execution: Set when an instruction is executed • Request: Set when requested by a user (using the special relay) • When system is switched: Set when the system is switched (between the control system and the standby system)
Corresponding ACPU M9□□□	• Special relay (M9□□□) supported by the ACPU ("M9□□□ format change" indicates the one whose application has been changed. Incompatible with the Basic model QCPU and Redundant CPU.) • "New" indicates the one added for the QCPU or QnACPU.
Corresponding CPU	CPU module supporting the special relay • ○: All the QnACPU and QCPU • QCPU: All the Q series CPU modules • Q00J/Q00/Q01: Basic model QCPU • Qn(H): High Performance model QCPU • QnPH: Process CPU • QnPRH: Redundant CPU • QnU: Universal model QCPU • QnA: QnA and Q2AS series CPU modules • Rem: MELSECNET/H remote I/O module • CPU module model: Only the specified model (Example: Q4ARCPU, Q3ACPU)

For details on the following items, refer to the following.

- For CPU related items: 📖 User's manual for the CPU module used
- For network related items: 📖 Manuals for each network module
- For SFC programs: 📖 MELSEC-Q/L/QnA Programming Manual (SFC)

Point

Do not change the values of special relay set by system using a program or by test operation. Doing so may result in system down or communication failure.

(1) Diagnostic information

No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU M9□□□	Corresponding CPU
SM0	Diagnostic errors	OFF: No error ON: Error	• This relay turns on if an error is detected by diagnostics. (Also turns on if an error is detected by an annunciator or the CHK instruction.) • This relay remains on even after the system returns to normal.	S (Error)	New	QnA Qn(H) QnPH QnPRH Rem
			• This relay turns on if an error is detected by diagnostics. (Also turns on if an error is detected by an annunciator.) • This relay remains on even after the system returns to normal.			Q00J/ Q00/Q01 QnU
SM1	Self-diagnostic error	OFF: No error ON: Error	• This relay turns on if an error is detected by self-diagnostics. (Remains off if an error is detected by an annunciator or the CHK instruction.) • This relay remains on even after the system returns to normal.		M9008	QnA Qn(H) QnPH QnPRH Rem
			• This relay turns on if an error is detected by self-diagnostics. (Remains off if an error is detected by an annunciator.) • This relay remains on even after the system returns to normal.		New	Q00J/ Q00/Q01 QnU
SM5	Error common information	OFF: No error common information ON: Error common information	This relay turns on if error common information data exists when SM0 turns on.			○ Rem
SM16	Error individual information	OFF: No error individual information ON: Error individual information	This relay turns on if error individual information data exists when SM0 turns on.			
SM50	Error reset	OFF→ON: Error reset	Conducts error reset operation.	U		
SM60	Blown fuse detection	OFF: Normal ON: Module with blown fuse	• This relay turns on if there is at least one output module whose fuse has blown. • This relay remains on even after the system returns to normal. Output modules on remote I/O stations are also checked.	S (Error)	M9000	
SM61	I/O module verify error	OFF: Normal ON: Error	• This relay turns on if the status of the I/O module differs from that registered at power-on. • This relay remains on even after the system returns to normal. • I/O modules on remote I/O stations are also checked.		M9002	

(2) System information

No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU M9□□□	Corresponding CPU
SM206	PAUSE enable coil	OFF: PAUSE disabled ON: PAUSE enabled	The status changes to PAUSE if this relay is on when the PAUSE contact turns on.	U	M9040	○
	Device test request acceptance status	OFF: Test not executed ON: Test executed	This relay turns on when inputs/outputs are forcibly registered by GX Developer.	S (Request)	New	Rem
SM213	Clock data read request	OFF: Ignored ON: Read request	This relay is turned on to read clock data and store them as BCD values into SD210 to SD213.	U	M9028	○ Rem
SM250	Max. loaded I/O read	OFF: Ignored ON: Read	When this relay turns on, the largest I/O number among those of the mounted modules is read into SD250.		New	QnA Qn(H) QnPH QnPRH Rem
SM280	CC-Link error	OFF: Normal ON: Error	Turns on if a CC-Link error is detected in any of the CC-Link modules mounted. Turns off when the condition returns to normal.	S (Status change)		Qn(H) QnPH QnPRH Rem
			Turns on if a CC-Link error is detected in any of the CC-Link modules mounted. Remains on even after the condition returns to normal.	S (Error)		QnA

(3) Scan information

No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU M9□□□	Corresponding CPU
SM551	Reads module service interval	OFF: Ignored ON: Read	When this relay is turned on, the service interval of the module specified by SD550 is read to SD551 and SD552.	U	New	QnA Qn(H) QnPH QnPRH Rem

(4) Redundant power supply module information

No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU M9□□□	Corresponding CPU
SM1780	Power supply off detection flag	OFF: No redundant power supply module with input power OFF detected ON: Redundant power supply module with input power OFF detected	• Turns on when one or more redundant power supply modules with input power off are detected. • Turns on if any of SD1780 bits is on. • Turns off if all bits of SD1780 are off. • This relay turns off when the main base unit is not a redundant main base unit (Q3□RB). • When the multiple CPU system is configured, the flags are stored only to the CPU No.1.	S (Every END processing)	New	Qn(H)*2 QnPH*2 QnPRH Rem
SM1781	Power supply failure detection flag	OFF: No faulty redundant power supply module detected ON: Faulty redundant power supply module detected	• Turns on when one or more faulty redundant power supply modules are detected. • Turns on if any of SD1781 bits is on. • Turns off if all bits of SD1781 are off. • This relay turns off when the main base unit is not a redundant main base unit (Q3□RB). • When the multiple CPU system is configured, the flags are stored only to the CPU No.1.			
SM1782	Momentary power failure detection flag for power supply 1*1	OFF: No momentary power failure detected ON: Momentary power failure detected	• Turns on when a momentary power failure of the input power supply to the power supply 1 or 2 is detected one or more times. After turning on, this relay remains on even if the power supply recovers from the momentary power failure. • Turns off the flags (SM1782 and SM1783) of the power supply 1 and 2 when the CPU module starts. • When the input power to one of the redundant power supply modules turns off, the corresponding flag turns off. • This relay turns off when the main base unit is not a redundant main base unit (Q3□RB). • When the multiple CPU system is configured, the flags are stored only to the CPU No.1.			
SM1783	Momentary power failure detection flag for power supply 2*1					

*1 The "power supply 1" indicates the redundant power supply module mounted on the POWER 1 slot of the redundant base unit (Q3□RB/Q6□RB/Q6□WRB).
The "power supply 2" indicates the redundant power supply module mounted on the POWER 2 slot of the redundant base unit (Q3□RB/Q6□RB/Q6□WRB).

*2 This applies to modules with a serial number (first five digits) of "07032" or later. In multiple CPU systems, all CPU modules used in a system must be the ones with a serial number (first five digits) of "07032" or later.

Appendix 4 Special Register (SD) for MELSECNET/H (MELSECNET/10 Mode) Remote I/O Station

The special register (SD) is an internal register whose application is fixed in the programmable controller. For this reason, the special register cannot be used in the same way as other internal registers used in sequence programs. However, data can be written to the special register to control the CPU module or the MELSECNET/H remote I/O module as needed. Data is stored in binary format if not specified. To monitor and write data to the special register of the MELSECNET/H remote I/O module, use GX Developer. Connect GX Developer to the remote master station or the MELSECNET/H (MELSECNET/10 mode) remote I/O station to perform monitoring and device tests.
The list in this section provides only the special register areas related to the MELSECNET/H remote I/O module. The following table shows how to read the special register list.

Item	Description
No.	Special register number
Name	Special register name
Meaning	Description of special register
Explanation	Detailed description of special register
Set by (When Set)	Set side and set timing of special register <Set by> • S: Set by system • U: Set by user (using a sequence program or test operation by a peripheral) • S/U: Set by both system and user <When Set> The following shows the set timing when the special register is set by system. • Every END processing: Set during every END processing • Initial: Set during initial processing (after power-on or status change from STOP to RUN) • Status change: Set when the operating status is changed • Error: Set if an error occurs • Instruction execution: Set when an instruction is executed • Request: Set when requested by a user (using the special relay) • When system is switched: Set when the system is switched (between the control system and the standby system)
Corresponding ACPU D9□□□	• Special register (D9□□□) supported by the ACPU ("D9□□□ format change" indicates the one whose application has been changed. Incompatible with the Basic model QCPU and Redundant CPU.) • "New" indicates the one added for the QCPU or QnACPU.
Corresponding CPU	CPU module supporting the special register • ○: All the QnACPU and QCPU • QCPU: All the Q series CPU modules • Q00J/Q00/Q01: Basic model QCPU • Qn(H): High Performance model QCPU • QnPH: Process CPU • QnPRH: Redundant CPU • QnU: Universal model QCPU • QnA: QnA and Q2AS series CPU modules • Rem: MELSECNET/H remote I/O module • CPU module model: Only the specified model (Example: Q4ARCPU, Q3ACPU)

For details on the following items, refer to the following.

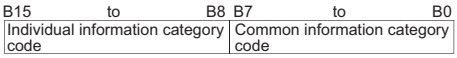
- For CPU related items: 📖 User's manual for the CPU module used
- For network related items: 📖 Manuals for each network module
- For SFC programs: 📖 MELSEC-Q/L/QnA Programming Manual (SFC)

Point

Do not change the values of special register set by system using a program or by test operation. Doing so may result in system down or communication failure.

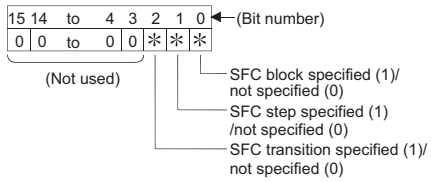
(1) Diagnostic information

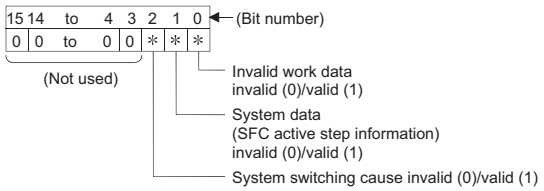
No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU D9□□□	Corresponding CPU
SD0	Diagnostic errors	Diagnostic error code	• This register stores the error code of an error detected by diagnostics. • Contents identical to latest error history information.	S (Error)	D9008 format change	○ Rem
SD1	Clock time for diagnosis error occurrence	Clock time for diagnosis error occurrence	This register stores the year (last two digits) and the month when the SD0 data is updated in 2-digit BCD. B15 to B8 B7 to B0 Year (0 to 99) | Month (1 to 12) (Example) : October, 1995 H9510		New	
SD2			This register stores the day and the hour when the SD0 data is updated in 2-digit BCD. B15 to B8 B7 to B0 Day (1 to 31) | Hour (0 to 23) (Example) : 10 a.m. 25th H2510			
SD3			This register stores the minute and the second when the SD0 data is updated in 2-digit BCD. B15 to B8 B7 to B0 Minutes (0 to 59) | Seconds (0 to 59) (Example) : 35 min. 48 sec. H3548			

No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU D9□□□	Corresponding CPU
SD4	Error information categories	Error information category code	• Error information is stored in Error common information (SD5 to SD15) and Error individual information (SD16 to SD26). • This register stores a category code indicating an error information type.  • The common information category codes store the following codes: 0: No error 1: Module No. (Slot No./CPU No./Base No.)*1 2: File name/drive name 3: Time (value set) 4: Program error location 5: Reason(s) for system switching (for the Q4AR and Redundant CPU) 6: Reason(s) for tracking size excess error (for the Redundant CPU) 7: Base No./power supply No. (Universal model QCPU: This applies to modules with a serial number (first five digits) of "10042" or later.) 8: Tracking transmission data classification (for the Redundant CPU) *1 For the multiple CPU system using the Basic model QCPU, High Performance model QCPU, Process CPU, and Universal model QCPU, the module No. or CPU No. is stored according to an error. (For details, refer to each error code.) CPU No. 1: 1, CPU No. 2: 2, CPU No. 3: 3, CPU No. 4: 4 • The individual information category codes store the following codes: 0: No error 1: (Empty) 2: File name/drive name 3: Time (value actually measured) 4: Program error location 5: Parameter number 6: Annunciator (F) No. 7: CHK instruction failure No. (Except for the Basic model QCPU and Universal model QCPU) 8: Reason(s) for system switching failure (for the Redundant CPU) 12: File diagnostic information (for the Universal model QCPU) 13: Parameter No./CPU No. (for the Universal model QCPU)	S (Error)	New	○ Rem

<table>
<tr><th>No.</th><th>Name</th><th>Meaning</th><th>Explanation</th><th>Set by (When Set)</th><th>Corres-ponding ACPU D9□□□</th><th>Corres-ponding CPU</th></tr>
<tr><td>SD5</td><td rowspan="14">Error common information</td><td rowspan="14">Error common information</td><td rowspan="14">• This register stores common information corresponding to the error code stored in SD0.
• The following five types of information are stored here.
• The error common information type can be determined by "common information category code" stored in SD4. (Values stored in "common information category code" correspond to the following 1) to 5).)
1) Module No.
<table><tr><th>No.</th><th>Description</th></tr><tr><td>SD5</td><td>Slot No./CPU No./Base No.*1, *2, *3, *4</td></tr><tr><td>SD6</td><td>I/O No.*5</td></tr><tr><td>SD7</td><td rowspan="9">(Empty)</td></tr><tr><td>SD8</td></tr><tr><td>SD9</td></tr><tr><td>SD10</td></tr><tr><td>SD11</td></tr><tr><td>SD12</td></tr><tr><td>SD13</td></tr><tr><td>SD14</td></tr><tr><td>SD15</td></tr></table>*1 For the multiple CPU system using the Basic model QCPU, High Performance model QCPU, Process CPU, and Universal model QCPU, the slot No. or CPU No. is stored according to an error. (For details, refer to each error code.)
CPU No. 1: 1, CPU No. 2: 2, CPU No. 3: 3, CPU No. 4: 4
*2 If a fuse has been blown or an I/O module verify error occurs in a module on the MELSECNET/H remote I/O station, the network No. is stored in the upper 8 bits and the station No. is stored in the lower 8 bits. To determine a fuse-blown module or a module where an I/O module verify error occurs, check the I/O No.
*3 If an instruction is executed from the Basic model QCPU to a module mounted on the slot where no module should be mounted, "255" is stored in SD5.</td><td rowspan="14">S
(Error)</td><td rowspan="14">New</td><td rowspan="14">○
Rem</td></tr>
<tr><td>SD6</td></tr>
<tr><td>SD7</td></tr>
<tr><td>SD8</td></tr>
<tr><td>SD9</td></tr>
<tr><td>SD10</td></tr>
<tr><td>SD11</td></tr>
<tr><td>SD12</td></tr>
<tr><td>SD13</td></tr>
<tr><td>SD14</td></tr>
<tr><td>SD15</td></tr>
</table>

<table>
<tr><th>No.</th><th>Name</th><th>Meaning</th><th>Explanation</th><th>Set by (When Set)</th><th>Corres-ponding ACPU D9□□□</th><th>Corres-ponding CPU</th></tr>
<tr><td>SD5
SD6
SD7
SD8
SD9
SD10
SD11
SD12
SD13
SD14
SD15</td><td>Error common information</td><td>Error common information</td><td>
*4 Definitions of the base No. and slot No.
[Base No.]
This number indicates a base unit on which the CPU module is mounted.
<table>
<tr><th>Base No.</th><th>Definition</th></tr>
<tr><td>0</td><td>Indicates the main base unit where a CPU module is mounted.</td></tr>
<tr><td>1 to 7</td><td>Indicates the extension base unit. The stage number setting made by the stage number setting connector on the extension base unit is the base No.
• When stage number setting is extension 1: Base No. = 1
• When stage number setting is extension 7: Base No. = 7</td></tr>
</table>
[Slot No.]
This number is used to identify the slot of each base unit and a module mounted on the slot.
The "0" I/O slot (slot on the right of the CPU slot) on the main base unit is defined as "Slot No. = 0".
The slot Nos. are assigned in sequence numbers in order of the main base unit and then the first extension base unit to 7th extension base unit.
When the number of slots on base units has been set in the I/O assignment tab of the PLC Parameter dialog box, the slot Nos. are assigned by the number of set slots.
*5 If $FFFF_H$ is stored in SD6 (I/O No.), this indicates that the I/O No. cannot be identified due to an error such as overlap of an I/O No. in the I/O assignment tab of the PLC Parameter dialog box. In this case, identify the error location using SD5.
2) File name/drive name
<table>
<tr><th>Number</th><th colspan="2">Description</th></tr>
<tr><td>SD5</td><td colspan="2">Drive</td></tr>
<tr><td>SD6</td><td colspan="2" rowspan="4">File name
(ASCII code: 8 characters)</td></tr>
<tr><td>SD7</td></tr>
<tr><td>SD8</td></tr>
<tr><td>SD9</td></tr>
<tr><td>SD10</td><td>Extension*6</td><td>$2E_H$(.)</td></tr>
<tr><td>SD11</td><td colspan="2">(ASCII code: 3 characters)</td></tr>
<tr><td>SD12</td><td colspan="2" rowspan="4">(Empty)</td></tr>
<tr><td>SD13</td></tr>
<tr><td>SD14</td></tr>
<tr><td>SD15</td></tr>
</table>
(Example)
File name = ABCDEFGH.IJK
<table>
<tr><th>B15 to B8</th><th>B7 to B0</th></tr>
<tr><td>42_H(B)</td><td>41_H(A)</td></tr>
<tr><td>44_H(D)</td><td>43_H(C)</td></tr>
<tr><td>46_H(F)</td><td>45_H(E)</td></tr>
<tr><td>48_H(H)</td><td>47_H(G)</td></tr>
<tr><td>49_H(I)</td><td>$2E_H$(.)</td></tr>
<tr><td>$4B_H$(K)</td><td>$4A_H$(J)</td></tr>
</table>
3) Time (value set)
<table>
<tr><th>No.</th><th>Description</th></tr>
<tr><td>SD5</td><td>Time: 1μs units (0 to 999μs)</td></tr>
<tr><td>SD6</td><td>Time: 1ms units (0 to 65535ms)</td></tr>
<tr><td>SD7
SD8
SD9
SD10
SD11
SD12
SD13
SD14
SD15</td><td>(Empty)</td></tr>
</table>
</td><td>S
(Error)</td><td>New</td><td>○
Rem</td></tr>
</table>

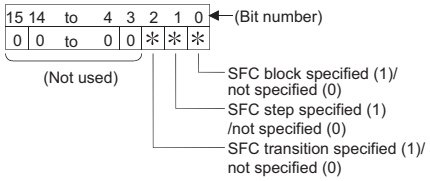
<table>
<tr><th>No.</th><th>Name</th><th>Meaning</th><th>Explanation</th><th>Set by (When Set)</th><th>Corres-ponding ACPU D9□□□</th><th>Corres-ponding CPU</th></tr>
<tr><td>SD5
SD6
SD7
SD8
SD9
SD10
SD11
SD12
SD13
SD14
SD15</td><td>Error common information</td><td>Error common information</td><td>
4) Program error location
<table>
<tr><th>No.</th><th>Description</th></tr>
<tr><td>SD5</td><td rowspan="4">File name
(ASCII code: 8 characters)</td></tr>
<tr><td>SD6</td></tr>
<tr><td>SD7</td></tr>
<tr><td>SD8</td></tr>
<tr><td>SD9</td><td>Extension*1</td><td>2E_H(.)</td></tr>
<tr><td>SD10</td><td colspan="2">(ASCII code: 3 characters)</td></tr>
<tr><td>SD11</td><td colspan="2">Pattern*2</td></tr>
<tr><td>SD12</td><td colspan="2">Block No.</td></tr>
<tr><td>SD13</td><td colspan="2">Step No./transition No.</td></tr>
<tr><td>SD14</td><td colspan="2" rowspan="2">Sequence step No. (L)
Sequence step No. (H)</td></tr>
<tr><td>SD15</td></tr>
</table>
*1 For extension names, refer to *6.
*2 The description of the bit pattern is as follows:


5) Reason(s) for system switching
<table>
<tr><th>No.</th><th>Description</th></tr>
<tr><td>SD5</td><td>System switching cause (0: Auto system switching/ 1: Manual system switching)</td></tr>
<tr><td>SD6</td><td>System switching direction
(0: Stanby system → control system/
1: Control system → stanby system)</td></tr>
<tr><td>SD7</td><td>Tracking flag*3</td></tr>
<tr><td>SD8
SD9
SD10
SD11
SD12
SD13
SD14
SD15</td><td>(Empty)</td></tr>
</table>
*3 Stored value of the tracking flag
Whether the tracking data is enabled or disabled can be set.


</td><td>S
(Error)</td><td>New</td><td>○
Rem</td></tr>
</table>

*6 The extension names are shown below.

SDn	SDn+1		Extension	File type
Higher 8 bits	Lower 8 bits	Higher 8 bits		
51_H	50_H	41_H	QPA	Parameters
51_H	50_H	47_H	QPG	• Sequence program • SFC program
51_H	43_H	44_H	QCD	Device comment
51_H	44_H	49_H	QDI	Initial device value
51_H	44_H	52_H	QDR	File register
51_H	44_H	53_H	QDS	Simulation data (for the QnACPU)
51_H	44_H	$4C_H$	QDL	Local device (except the Basic model QCPU)
51_H	54_H	44_H	QTD	Sampling trace data (except the Basic model QCPU)
51_H	54_H	$4C_H$	QTL	Status latch data (for the QnACPU)
51_H	54_H	50_H	QTP	Program trace data (for the QnACPU)
51_H	54_H	52_H	QTR	SFC trace file (for QnA)
51_H	46_H	44_H	QFD	Error history data (except the Basic model QCPU and Universal model QCPU)
51_H	53_H	54_H	QST	SP.DEVST/S.DEVLD instruction file (for the Universal model QCPU only)

<table>
<tr><th>No.</th><th>Name</th><th>Meaning</th><th>Explanation</th><th>Set by
(When Set)</th><th>Corres-
ponding
ACPU
D9□□□</th><th>Corres-
ponding
CPU</th></tr>
<tr><td>SD16
SD17
SD18
SD19
SD20
SD21
SD22
SD23
SD24
SD25
SD26</td><td>Error individual information</td><td>Error individual information</td><td>
• This register stores individual information corresponding to the error code stored in SD0.
• The following six types of information are stored here.
• The error individual information type can be determined by "individual information category code" stored in SD4. (Values stored in "individual information category code" correspond to the following 1) to 7).)
1) (Empty)
2) File name/drive name
<table>
<tr><th>Number</th><th colspan="2">Description</th></tr>
<tr><td>SD16</td><td colspan="2">Drive</td></tr>
<tr><td>SD17</td><td colspan="2" rowspan="4">File name
(ASCII code: 8 characters)</td></tr>
<tr><td>SD18</td></tr>
<tr><td>SD19</td></tr>
<tr><td>SD20</td></tr>
<tr><td>SD21</td><td>Extension*1</td><td>2EH(.)</td></tr>
<tr><td>SD22</td><td colspan="2">(ASCII code: 3 characters)</td></tr>
<tr><td>SD23</td><td colspan="2" rowspan="4">(Empty)</td></tr>
<tr><td>SD24</td></tr>
<tr><td>SD25</td></tr>
<tr><td>SD26</td></tr>
</table>
(Example)
File name = ABCDEFGH.IJK
<table>
<tr><th>B15 to B8</th><th>B7 to B0</th></tr>
<tr><td>42H(B)</td><td>41H(A)</td></tr>
<tr><td>44H(D)</td><td>43H(C)</td></tr>
<tr><td>46H(F)</td><td>45H(E)</td></tr>
<tr><td>48H(H)</td><td>47H(G)</td></tr>
<tr><td>49H(I)</td><td>2EH(.)</td></tr>
<tr><td>4BH(K)</td><td>4AH(J)</td></tr>
</table>
3) Time (value actually measured)
<table>
<tr><th>No.</th><th>Description</th></tr>
<tr><td>SD16</td><td>Time: 1μs units (0 to 999μs)</td></tr>
<tr><td>SD17</td><td>Time: 1ms units (0 to 65535ms)</td></tr>
<tr><td>SD18
SD19
SD20
SD21
SD22
SD23
SD24
SD25
SD26</td><td>(Empty)</td></tr>
</table>
4) Program error location
<table>
<tr><th>No.</th><th colspan="2">Description</th></tr>
<tr><td>SD16
SD17
SD18
SD19</td><td colspan="2">File name
(ASCII code: 8 characters)</td></tr>
<tr><td>SD20</td><td>Extension*1</td><td>2EH(.)</td></tr>
<tr><td>SD21</td><td colspan="2">(ASCII code: 3 characters)</td></tr>
<tr><td>SD22</td><td colspan="2">Pattern*2</td></tr>
<tr><td>SD23</td><td colspan="2">Block No.</td></tr>
<tr><td>SD24</td><td colspan="2">Step No./transition No.</td></tr>
<tr><td>SD25</td><td colspan="2">Sequence step No. (L)</td></tr>
<tr><td>SD26</td><td colspan="2">Sequence step No. (H)</td></tr>
</table>
*1 For extension names, refer to *6.
*2 The description of the bit pattern is as follows:


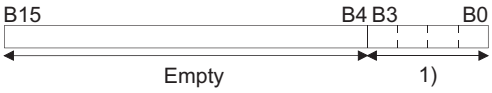
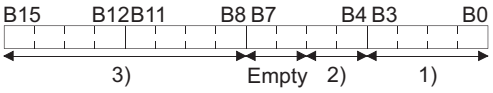
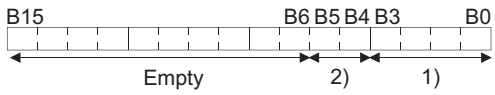
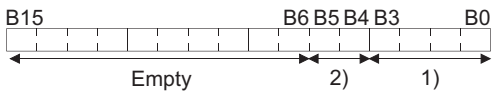
</td><td>S
(Error)</td><td>New</td><td>○
Rem</td></tr>
</table>

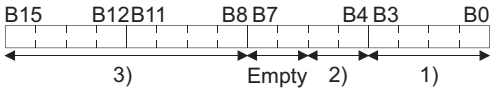
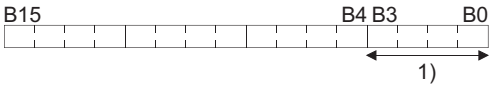
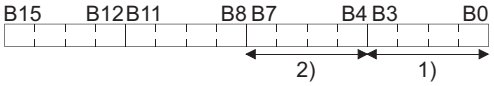
<table>
<tr><th>No.</th><th>Name</th><th>Meaning</th><th>Explanation</th><th>Set by (When Set)</th><th>Corres-ponding ACPU D9□□□</th><th>Corres-ponding CPU</th></tr>
<tr><td>SD16</td><td rowspan="15">Error individual information</td><td rowspan="15">Error individual information</td><td>5) Parameter No.
<table><tr><th>No.</th><th>Description</th></tr><tr><td>SD16</td><td>Parameter No.*3</td></tr><tr><td>SD17</td><td rowspan="10">(Empty)</td></tr><tr><td>SD18</td></tr><tr><td>SD19</td></tr><tr><td>SD20</td></tr><tr><td>SD21</td></tr><tr><td>SD22</td></tr><tr><td>SD23</td></tr><tr><td>SD24</td></tr><tr><td>SD25</td></tr><tr><td>SD26</td></tr></table>6) Annunciator number
7) CHK instruction malfunction number
<table><tr><th>No.</th><th>Description</th></tr><tr><td>SD16</td><td>No.</td></tr><tr><td>SD17</td><td rowspan="10">(Empty)</td></tr><tr><td>SD18</td></tr><tr><td>SD19</td></tr><tr><td>SD20</td></tr><tr><td>SD21</td></tr><tr><td>SD22</td></tr><tr><td>SD23</td></tr><tr><td>SD24</td></tr><tr><td>SD25</td></tr><tr><td>SD26</td></tr></table>*3 For details of the parameter No., refer to the User's Manual (Function Explanation, Program Fundamentals) for the CPU module used.</td><td rowspan="15">S
(Error)</td><td rowspan="15">New</td><td rowspan="15">○
Rem</td></tr>
<tr><td>SD17</td></tr>
<tr><td>SD18</td></tr>
<tr><td>SD19</td></tr>
<tr><td>SD20</td></tr>
<tr><td>SD21</td></tr>
<tr><td>SD22</td></tr>
<tr><td>SD23</td></tr>
<tr><td>SD24</td></tr>
<tr><td>SD25</td></tr>
<tr><td>SD26</td></tr>
<tr><td>SD50</td><td>Error reset</td><td>Error code where the error reset is performed</td><td>This register stores the error code where the error reset is performed.</td></tr>
<tr><td>SD53</td><td>AC/DC DOWN detection</td><td>Number of times for AC/DC DOWN detection</td><td>• A value stored in this register is incremented by 1 whenever the input voltage falls to or below 85% (AC power)/65% (DC power) of the rating during operation of the CPU module. The value is stored in BIN.
• The counter repeats increment and decrement of the value; 0→32767→-32768→0.</td><td rowspan="3">S
(Error)</td><td>D9005</td></tr>
<tr><td>SD60</td><td>Number of module with blown fuse</td><td>Number of module with blown fuse</td><td>This register stores the lowest I/O number of the module with a blown fuse.</td><td>D9000</td></tr>
<tr><td>SD61</td><td>I/O module verify error number</td><td>I/O module verify error module number</td><td>This register stores the lowest I/O number of the module where the I/O module verify error has occurred.</td><td>D9002</td></tr>
</table>

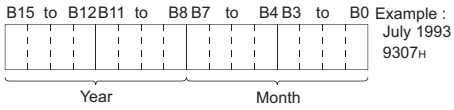
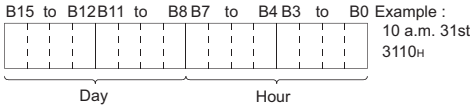
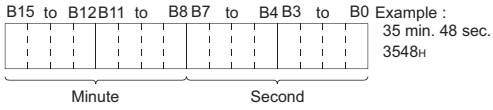
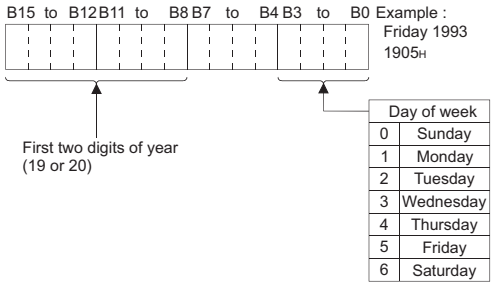
No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU D9□□□	Corresponding CPU
SD105	CH1 transmission speed setting (RS-232)	Stores a transmission speed set in GX Developer.	96: 9600bps, 192: 19.2kbps, 384: 38.4kbps, 576: 57.6kbps, 1152: 115.2kbps The data of the RS-232 connection is used for any other connection. (When an external device is not connected, the default is 1152).	S	New	Qn(H) QnPH QnPRH QnU*1 Rem

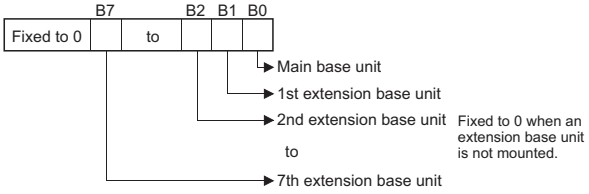
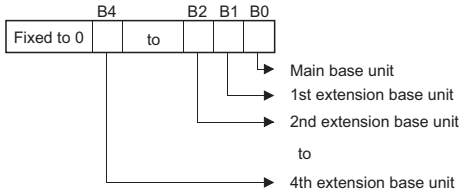
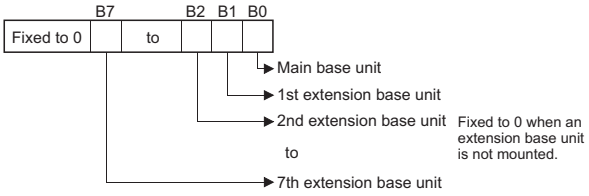
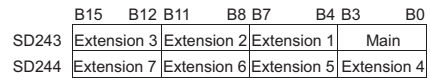
*1 This applies to Universal model QCPUs except for the Built-in Ethernet port QCPU.

(2) System information

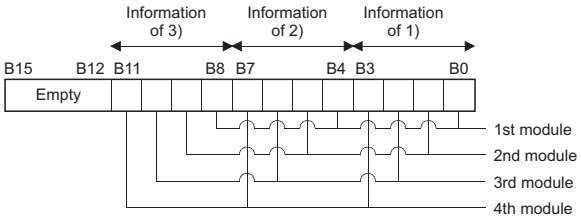
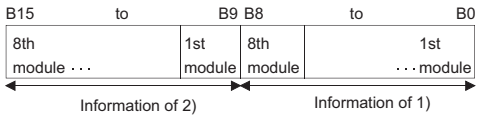
No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU D9□□□	Corresponding CPU
SD200	Status of switch	Status of CPU switch	This register stores the status of the remote I/O module switch in the following bit pattern.  1) Remote I/O module switch status Always 1: STOP	S (Always)	New	Rem
			This register stores the status of the CPU module switches in the following bit pattern.  1) CPU switch status 0: RUN 1: STOP 2: L.CLR 2) Memory card switch: Always OFF 3) DIP switch B8 through B12 correspond to SW1 through SW5 of system setting switch 1. 0: OFF, 1: ON. BD through BF are empty.	S (Every END processing)		Qn(H) QnPH QnPRH
			This register stores the status of the CPU module switches in the following bit pattern.  1) CPU switch status 0: RUN 1: STOP 2) Memory card switch: Always OFF			Q00J/ Q00/Q01
			This register stores the status of the CPU module switches in the following bit pattern.  1) CPU switch status 0: RUN 1: STOP 2) Memory card switch: Always OFF	S (when RUN/ STOP/ RESET switch changed)		QnU

No.	Name	Meaning	Explanation	Set by (When Set)	Corres-ponding ACPU D9□□□	Corres-ponding CPU
SD200	Status of switch	Status of CPU switch	This register stores the status of the CPU module switches in the following bit pattern.  1) CPU switch status 0: RUN 1: STOP 2: L.CLR 2) Memory card switch B4: card A, B5: card B, 0: OFF, 1: ON. 3) DIP switch B8 through B12 correspond to SW1 through SW5 of system setting switch 1. B14 and B15 correspond to SW1 and SW2 of system setting switch 2. 0: OFF, 1: ON.	S (Every END processing)	New	QnA
SD203	Operating status of CPU	Operating status of CPU	This register stores the operating status of the remote I/O module in the following bit pattern.  1) Operating status of remote I/O module Always 2: STOP	S (Always)		Rem
			This register stores the operating status of the CPU module in the following bit pattern.  1) Operating status of CPU 0: RUN 1: STEP-RUN (QnACPU only) 2: STOP 3: PAUSE 2) STOP/PAUSE cause 0: RUN/STOP switch ("RUN/STOP/RESET switch" for the Basic model QCPU and Universal model QCPU) 1: Remote contact 2: Remote operation from GX Developer or serial communication modules 3: Internal program instruction 4: Error	S (Every END processing)	D9015 format change	○
SD206	Device test execution type	0: No test being executed 1: During X device test 2: During Y device test 3: During X/Y device test	A value is stored in this register when inputs/outputs are forcibly registered by GX Developer.	S (Request)	New	Rem

No.	Name	Meaning	Explanation	Set by (When Set)	Corres-ponding ACPU D9□□□	Corres-ponding CPU
SD210	Clock data	Clock data (year, month)	This register stores the year (last two digits) and month in BCD as shown below. 	S (Request) /U	D9025	○ Rem
SD211		Clock data (day, hour)	This register stores the day and hour in BCD as shown below. 		D9026	
SD212		Clock data (minute, second)	This register stores the minute and the second in BCD as shown below. 		D9027	
SD213		Clock data (higher digits of year, day of week)	This register stores the year (first two digits) and day of week in BCD as shown below. 		D9028	QCPU Rem
SD240	Base mode	0: Automatic mode 1: Detail mode	This register stores the base mode.	S (Initial)	New	
SD241	Extension stage number	0: Main base only 1 to 7: Number of extension base units	This register stores the number of extension base units installed.			

<table>
<tr><th>No.</th><th>Name</th><th>Meaning</th><th>Explanation</th><th>Set by (When Set)</th><th>Corres-ponding ACPU D9□□□</th><th>Corres-ponding CPU</th></tr>
<tr><td rowspan="4">SD242</td><td>A/Q base differentiation</td><td>Base type differentiation
0: QA**B is installed (A mode)
1: Q**B is installed (Q mode)</td><td> 
</td><td rowspan="4">S (Initial)</td><td rowspan="4">New</td><td>Qn(H)
QnPH
QnPRH
Rem</td></tr>
<tr><td>Installed Q base presence/ absence</td><td>Base type differentiation
0: Base not installed
1: Q**B is installed</td><td> 
</td><td>Q00J/
Q00/Q01</td></tr>
<tr><td>Installed Q base presence/ absence</td><td>Base type differentiation
0: Base not installed
1: Q**B is installed</td><td> 
</td><td>QnU</td></tr>
<tr><td>SD243
SD244</td><td>No. of base slots</td><td>No. of base slots</td><td> 

The number of slots used is stored in the area corresponding to each base unit as shown above.</td><td>Qn(H)
QnPH
QnPRH
QnU
Rem</td></tr>
<tr><td rowspan="2">SD250</td><td rowspan="2">Loaded maximum I/O</td><td rowspan="2">Loaded maximum I/O No.</td><td>When SM250 is turned on, the first two digits of the number, which are the last I/O number of the mounted modules plus 1, are stored in binary format.</td><td>S (Request END)</td><td>Qn(H)
QnPH
QnPRH
Rem</td></tr>
<tr><td>The first two digits of the number, which are the last I/O number of the mounted modules plus 1, are stored in binary format.</td><td>S (Initial)</td><td>Q00J/
Q00/Q01
QnU
Rem</td></tr>
</table>

No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU D9□□□	Corresponding CPU
SD280	CC-Link error	Error detection status	1) When Xn0 of a mounted CC-Link module turns on, the corresponding bit is set to 1 (on). 2) When either Xn1 or XnF of a mounted CC-Link module turns off, the corresponding bit is set to 1 (on). 3) When a mounted CC-Link module is not able to communicate with the CPU module, the corresponding bit is set to 1 (on).  The above modules are numbered in order of the start I/O numbers. (However, the one where no start I/O number is set in parameter is not counted.)	S (Error)	New	Qn(H) QnPH QnPRH Rem
			1) When Xn0 of a mounted CC-Link module turns on, the corresponding bit is set to 1 (on). 2) When either Xn1 or XnF of a mounted CC-Link module turns off, the corresponding bit is set to 1 (on). 3) When a mounted CC-Link module is not able to communicate with the CPU module, the corresponding bit is set to 1 (on).  			QnA

No.	Name	Meaning	Explanation	Set by (When Set)	Corres-ponding ACPU D9□□□	Corres-ponding CPU
SD290	Device assignment (same as parameter contents)	Number of points assigned for X	Stores the number of points currently set for X devices.	S (Initial)	New	○ Rem
SD291		Number of points assigned for Y	Stores the number of points currently set for Y devices.			
SD292		Number of points assigned for M	Stores the number of points currently set for M devices.			
SD294		Number of points assigned for B	Stores the number of points currently set for B devices.			
SD296		Number of points assigned for SB	Stores the number of points currently set for SB devices.			
SD302		Number of points assigned for D	Stores the number of points currently set for D devices.			
SD303		Number of points assigned for W	Stores the number of points currently set for W devices.			
SD304		Number of points assigned for SW	Stores the number of points currently set for SW devices.			
SD315	Time reserved for communication processing	Time reserved for communication processing	• This register specifies the amount of processing time for communication with GX Developer or other devices. • The greater the value specified is, the shorter the response time for communication with another device (such as GX Developer or serial communication module) is. However, scan time will increase by the specified time. • Setting range: 1 to 100ms • A setting outside the above range is regarded as no setting.	U		Q00J/ Q00/Q01 Qn(H) QnPH QnPRH Rem
SD340	Ethernet information	No. of modules mounted	Indicates the number of mounted Ethernet module.	S (Initial)		QCPU Rem
SD341		I/O No. (Information of 1st module)	Indicates I/O No. of mounted Ethernet module.			
SD342		Network No. (Information of 1st module)	Indicates network No. of mounted Ethernet module.			
SD343		Group No. (Information of 1st module)	Indicates group No. of the mounted Ethernet module.			
SD344		Station No. (Information of 1st module)	Indicates station No. of mounted Ethernet module.			

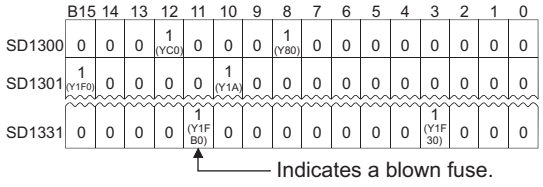
No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU D9□□□	Corresponding CPU
SD345, SD346	Ethernet information	Empty (Information of 1st module)	Empty (For the QCPU, the IP address of the 1st Ethernet module is stored in the buffer memory.)	S (Initial)	New	Qn(H) QnPH QnPRH QnU Rem
SD347		Empty (Information of 1st module)	Empty (For the QCPU, an error code of the 1st Ethernet module is read with the ERRRD instruction.)			
SD348 to SD354		Information from 2nd module	Data configuration is the same as that of the 1st module.			
SD355 to SD361		Information from 3rd module				Qn(H) QnPH QnPRH QnU*1 Rem
SD362 to SD368		Information from 4th module				

*1 This applies to Universal model QCPUs except for the Q02UCPU.

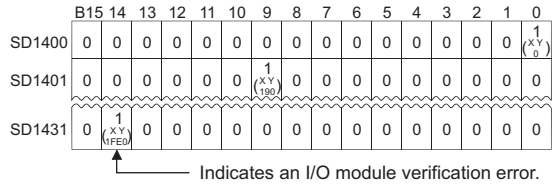
(3) Scan information

No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU D9□□□	Corresponding CPU
SD550	Service interval measurement module	Module No.	Sets I/O number for module that measures service interval.	U	New	QnA Qn(H) QnPH QnPRH Rem
SD551	Service interval time	Module service interval (ms value)	This register stores the service interval of a module specified by SD550 when SM551 is turned on. (The time is measured in increments of 100μs.) • SD551: Stores a ms value (storage range: 0 to 65535) • SD552: Stores a μs value (storage range: 0 to 900)	S (Request)		
SD552		Module service interval (μs value)				

(4) Fuse blown module

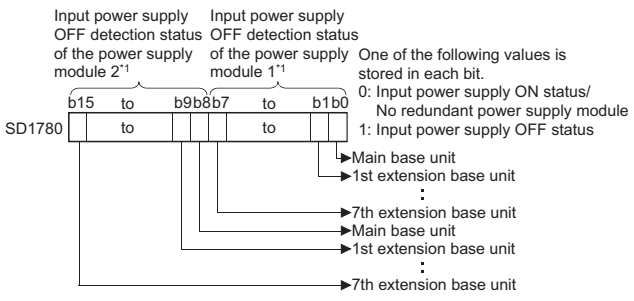
No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU D9□□□	Corresponding CPU
SD1300	Fuse blown module	Bit pattern in units of 16 points, indicating the modules whose fuses have blown 0: No blown fuse 1: Blown fuse	• The number of an output module whose fuse has blown is stored in the following bit pattern (in units of 16 points). (If the module numbers are set by parameter, the parameter-set numbers are stored.) • The status of the blown fuse of an output module on a remote station is also detected.  • For a module whose number of output points exceeds 16 points, all bits corresponding to output module numbers within the number of output points occupied by the module (in units of 16 points) turn on. **Ex.** When a 64-point module is mounted on the slot 0, b0 to b3 turn on when the fuse has blown. • Not cleared even if the blown fuse is replaced with a new one. The numbers are cleared by clearing the error. • The module No. is not cleared even when the output module goes back to normal. The number is cleared by clearing the error.	S (Error)	D9100	QnA Qn(H) QnPH QnPRH QnU Rem
SD1301					D9101	
SD1302					D9102	
SD1303					D9103	
SD1304					D9104	
SD1305					D9105	
SD1306					D9106	
SD1307					D9107	
SD1308					New	
SD1309 to SD1330						
SD1331						

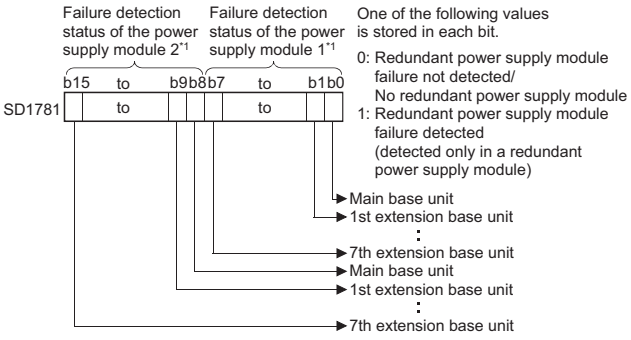
(5) I/O module verification

No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU D9□□□	Corresponding CPU
SD1400	I/O module verify error	Bit pattern, in units of 16 points, indicating the module with an I/O module verify error 0: No error 1: Error	• If the status of the I/O module changes from that obtained at power-on, the module No. is stored in the following bit pattern (in units of 16 points). (If the I/O numbers are set by parameter, the parameter-set numbers are stored.) • I/O module information is also detected.  • For a module whose number of I/O points exceeds 16 points, all bits corresponding to I/O module numbers within the number of I/O points occupied by the module (in units of 16 points) turn on. Ex. When a 64-point module is mounted on the slot 0, b0 to b3 turn on when an error is detected. • The module No. is not cleared even when the I/O module goes back to normal. The number is cleared by clearing the error.	S (Error)	D9116	QnA Qn(H) QnPH QnPRH QnU Rem
SD1401					D9117	
SD1402					D9118	
SD1403					D9119	
SD1404					D9120	
SD1405					D9121	
SD1406					D9122	
SD1407					D9123	
SD1408					New	
SD1409 to SD1430						
SD1431						

(6) Redundant power supply module information

The special register (SD1780 to SD1789) is valid only for redundant power supply systems. All bits are set to "0" for single power supply systems.

No.	Name	Meaning	Explanation	Set by (When Set)	Corresponding ACPU D9□□□	Corresponding CPU
SD1780	Power supply off detection status	Power supply off detection status	• This register stores status of a redundant power supply module (Q6□RP) with input power off, in the following bit pattern. • When the main base unit is not a redundant power main base unit (Q3□RB), "0" is stored.  • In a multiple CPU system, the status is stored only to CPU module No.1.	S (Every END processing)	New	Qn(H)*2 QnPH*2 QnPRH Rem QnU*3

No.	Name	Meaning	Explanation	Set by (When Set)	Corres-ponding ACPU D9□□□	Corres-ponding CPU
SD1781	Power supply failure detection	Power supply failure detection status	• This register stores failure detection status of a redundant power supply module (Q6□RP) in the following bit pattern. (After a failure is detected on a redundant power supply module, the bit corresponding to the failed module turns to “0” upon turning off the module.) • When the main base unit is not a redundant power main base unit (Q3□RB), “0” is stored.  • In a multiple CPU system, the status is stored only to CPU module No.1.	S (Every END processing)	New	Qn(H)*2 QnPH*2 QnPRH Rem QnU*3
SD1782	Momentary power failure detection counter for power supply 1*1	Momentary power failure detection count for power supply 1	• This register counts the number of times of momentary power failure of the power supply 1/2. • This register monitors the status of the power supply 1/2 mounted on a redundant power main base unit (Q3□RB) and counts the number of momentary power failures. The status of power supply 1/2 mounted on the extension base unit for redundant power supply system and the redundant type extension base unit is not monitored. • When the CPU module starts, the counter of the power supply 1/2 is cleared to “0”. • If the input power to one of the redundant power supply modules is turned off, the corresponding counter is cleared to “0”. • The counter is incremented by one upon momentary power failure on the power supply 1 or 2. • When the main base unit is not a redundant power main base unit (Q3□RB), “0” is stored. • In a multiple CPU system, the status is stored only to CPU module No.1. • The counter repeats increment and decrement of the value; 0→32767→-32768→0. (The value is displayed within the range of 0 to 65535 on the device monitor window of GX Developer.)			
SD1783	Momentary power failure detection counter for power supply 2*1	Momentary power failure detection count for power supply 2				

*1 The "power supply 1" indicates the redundant power supply module mounted on the POWER 1 slot of the redundant base unit (Q3□RB/Q6□RB/Q6□WRB).
The "power supply 2" indicates the redundant power supply module mounted on the POWER 2 slot of the redundant base unit (Q3□RB/Q6□RB/Q6□WRB).

*2 This applies to modules with a serial number (first five digits) of "07032" or later. However, for the multiple CPU system configuration, this applies to all CPU modules with a serial number (first five digits) of "07032" or later.

*3 This applies to modules with a serial number (first five digits) of "10042" or later.

Appendix 5 Product Comparison

This section compares the MELSECNET/10 remote I/O module with the MELSECNET/H remote I/O module.

(1) Cable comparison

The same cable as the one for the MELSECNET/10 remote I/O network can be used for the MELSECNET/H remote I/O module.

For the MELSECNET/H remote I/O module, however, cables need to be connected to the front of the module. Therefore, required cable length differs from that for the MELSECNET/10 remote I/O module.

(2) Functional comparison

For the functional comparison of the MELSECNET/10 remote I/O module and MELSECNET/H remote I/O module, refer to Page 25, Section 3.2.1.

(3) LED comparison

The following table lists the differences of LEDs between the MELSECNET/10 remote I/O module and MELSECNET/H remote I/O module.

<table>
<tr><th>MELSECNET/10 remote I/O module</th><th>MELSECNET/H remote I/O module</th><th>Description</th></tr>
<tr><td>RUN</td><td>RUN</td><td rowspan="5">LEDs are the same between the two modules.</td></tr>
<tr><td>T.PASS</td><td>T.PASS</td></tr>
<tr><td>D.LINK</td><td>D.LINK</td></tr>
<tr><td>SD</td><td>SD</td></tr>
<tr><td>RD</td><td>RD</td></tr>
<tr><td>SW.E.</td><td rowspan="3">ERR.</td><td rowspan="2">Integrated to the ERR. LED for the MELSECNET/H remote I/O module.
Error details can be checked in the "PLC diagnostics" window of GX Developer.</td></tr>
<tr><td>PRM.E.</td></tr>
<tr><td>ST.E.</td><td>Integrated to the ERR. LED for the MELSECNET/H remote I/O module.
Error details can be checked with the network diagnostics of GX Developer.</td></tr>
<tr><td>CRC</td><td rowspan="7">L ERR.</td><td rowspan="7">Integrated to the L ERR. LED for the MELSECNET/H remote I/O module.
Error details can be checked with the network diagnostics of GX Developer.</td></tr>
<tr><td>OVER</td></tr>
<tr><td>AB.IF</td></tr>
<tr><td>TIME</td></tr>
<tr><td>DATA</td></tr>
<tr><td>UNDER</td></tr>
<tr><td>LOOP</td></tr>
</table>

MELSECNET/10 remote I/O module	MELSECNET/H remote I/O module	Description
RMT.E.	REM.	The name is changed to REM LED for the MELSECNET/H remote I/O module. Meaning of the REM LED has been changed as follows: • MELSECNET/10 remote I/O module An I/O module verify error or fuse blown error has occurred. • MELSECNET/H remote I/O module A watchdog timer error, I/O module verify error, or fuse blown error has occurred during initialization of the remote station. The on/off specifications have also been changed as follows: • RMT.E LED of the MELSECNET/10 remote I/O module On: Error Off: Normal operation • REM. LED of the MELSECNET/H remote I/O module On: Normal operation Off: Error
DUAL	—	The MELSECNET/H remote I/O module does not have any corresponding LED. Check the status of the multiplex transmission using either of the following methods. • "Network monitor details" of GX Developer • Link special relay (SB0069), link special register (SW00B0 to SW00B7)
POWER(PW)		The MELSECNET/H remote I/O module does not have any corresponding LED. Check the power supply status with the RUN LED.
HOLD		The MELSECNET/H remote I/O module does not have any corresponding LED. To hold outputs of the MELSECNET/H (MELSECNET/10 mode) remote I/O station when the Q4ARCPU (single system) or A6RAF (redundant system) is used, set the corresponding parameter in "Detailed setting" of the PLC parameter to the station. If not set, all outputs are turned off (cleared) even when the hold status is set to the Q4ARCPU or A6RAF.
WAIT		The MELSECNET/H remote I/O module does not have any corresponding LED.
F.E.		
R.E.		

(4) Program comparison

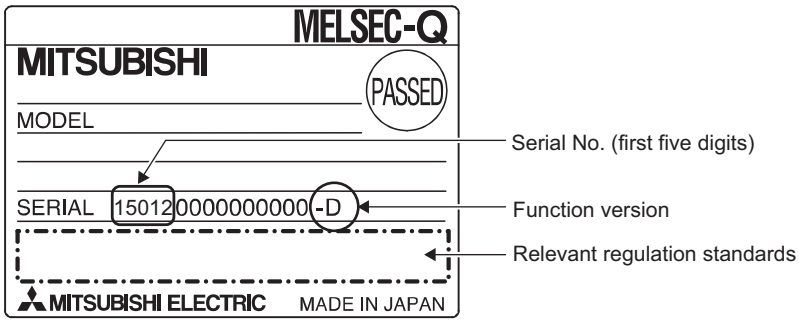
For differences on programs of both modules, refer to Page 53, Section 6.1.

Appendix 6 Checking Serial Number and Function Version

The function version and serial number of a network module can be checked on the rating plate, on the front of the module, and on the System monitor window in GX Developer.

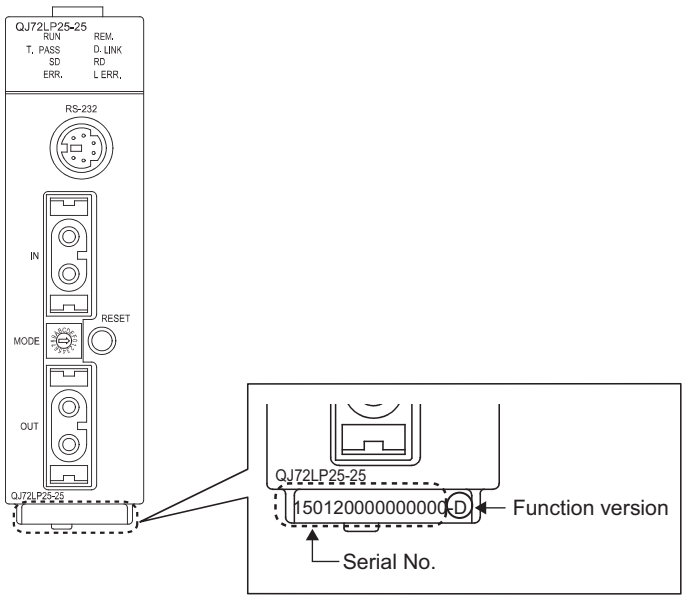
(1) Checking on the rating plate

The rating plate is located on the side of the network module.



(2) Checking on the front of the module

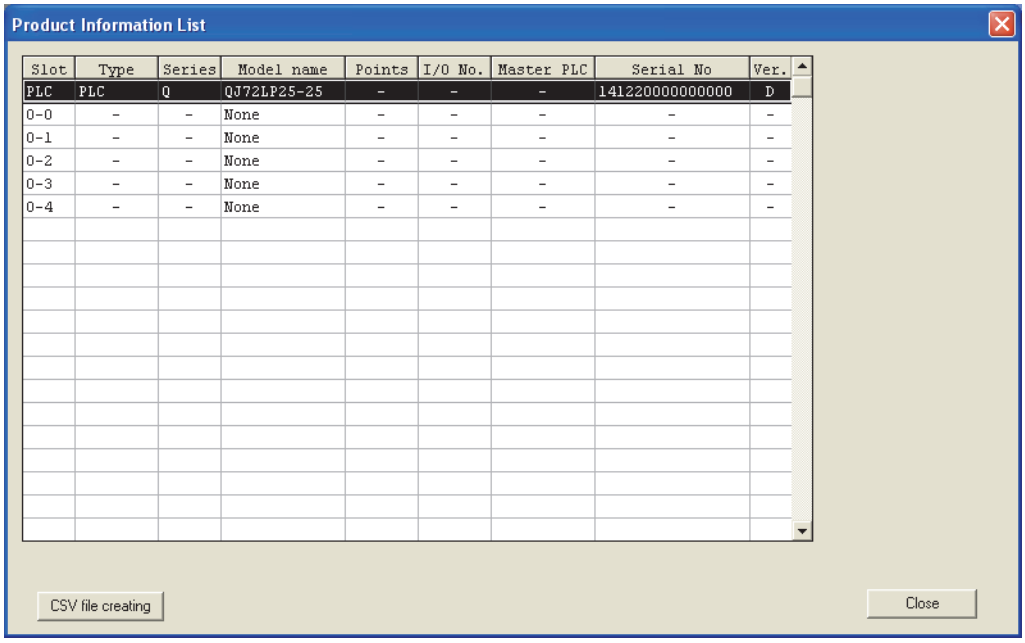
The serial number and function version on the rating plate are printed on the front (at the bottom) of the module.



(3) Checking with GX Developer

The serial number and function version of the module can also be checked on the Product Information List window.

[Diagnostics] ⇨ [System Monitor] ⇨ "Product Information List"



(a) Display of the product number

Since the network module does not support the product number display, "-" is displayed on the window.

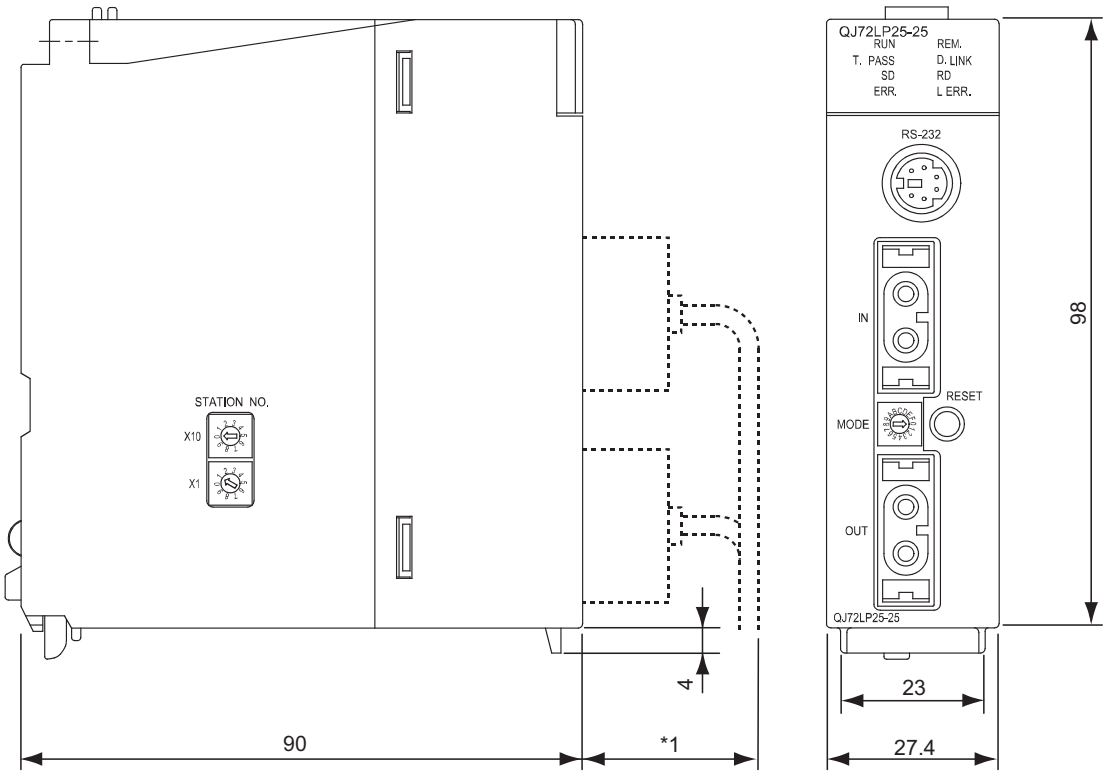
Point

The serial number displayed on the Product Information List window of GX Developer may differ from that on the rating plate or on the front of the module.

- The serial number on the rating plate or on the front of the module indicates the management information of the product.
- The serial number displayed on the Product Information List window indicates the functional information of the product. The functional information of the product will be updated when a function is added.

Appendix 7 External Dimensions

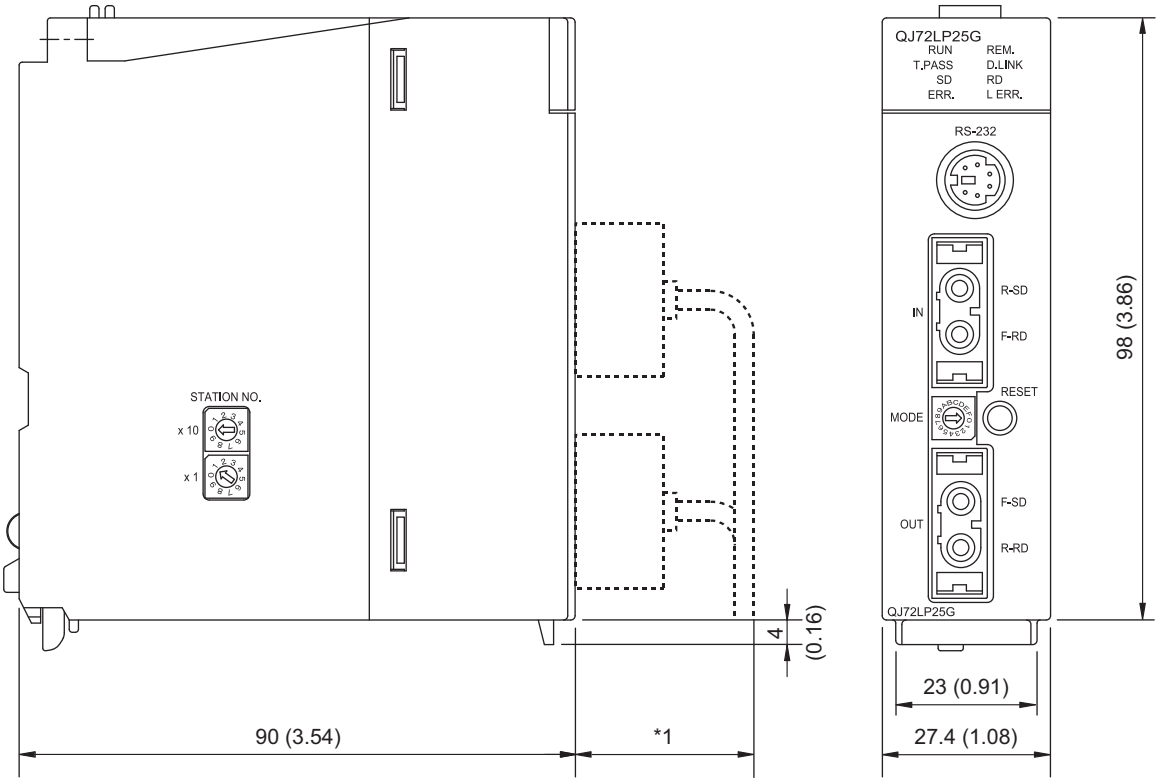
(1) QJ72LP25-25



Unit: mm

*1 For details, please contact Mitsubishi Electric System & Service Co., Ltd.

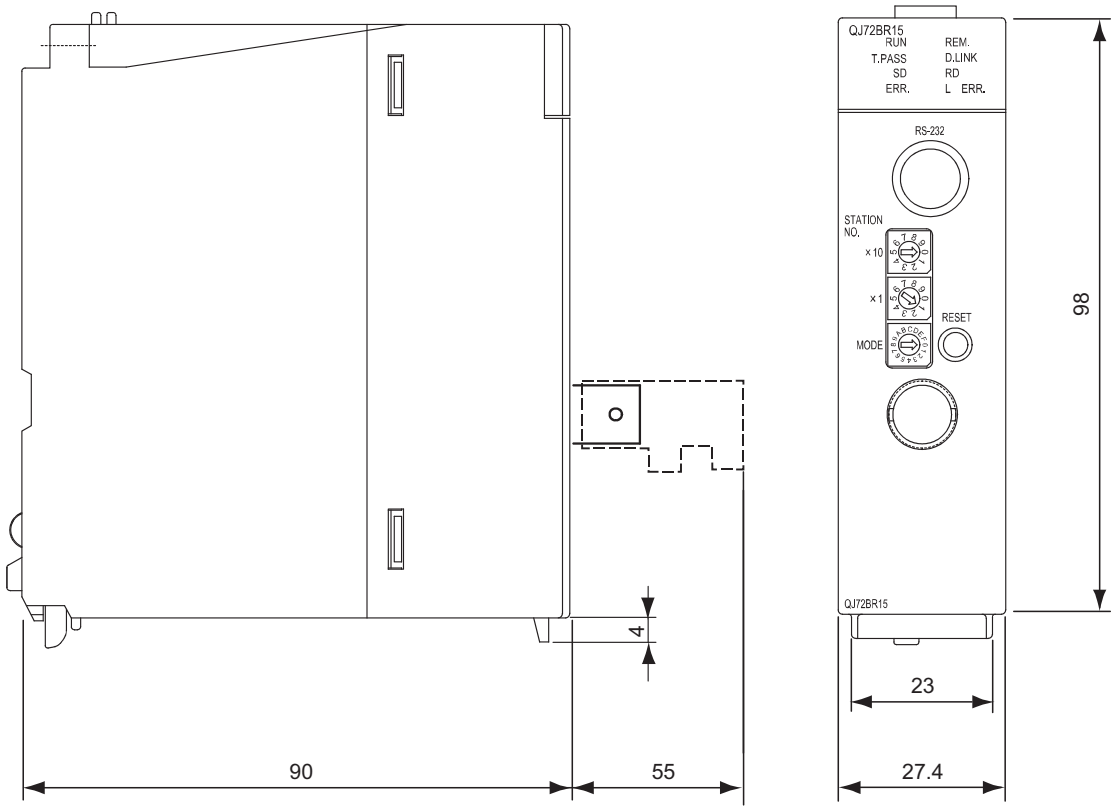
(2) QJ72LP25G, QJ72LP25GE



Unit: mm

*1 For details, please contact Mitsubishi Electric System & Service Co., Ltd.

(3) QJ72BR15



Unit: mm

INDEX

A

A link dedicated instruction will not be completed. . . 87
A/AnS series extension base unit. 21
AS-i master module 21

C

CC-Link IE Controller Network module 21
CC-Link IE Field Network master/local module 21
Checking on the front of the module. 127
Checking on the rating plate 127
Checking the LED 71
Checking with GX Developer. 128
Clear of error history. 83
Communication information. 76
Communication status of each station 77
Communication test 47
Compatible software package 19
Connector 38
CPU operation status of each station 78
Cyclic transmission failure. 87
Cyclic transmission function 25
Cyclic transmission function (periodic communication) 31

D

D.LINK 35
Data link information. 79
Data linking cannot be performed at a station 86
Data linking cannot be performed throughout the entire system 85
Data linking stops at reset or power off of each station 85
Data-Link status of each station. 77

E

ERR. 36
Error history detail monitoring 83
Error history monitor. 81
Error info. 77
Example of replacing a system 54
Extension base unit (type requiring a power supply module) 20
Extension base unit (type requiring no power supply module) 20
Extension base unit for redundant power supply system 20
External dimensions 129

F

Failure of send/receive data 87
Function list. 25
Functional comparison 125

H

Hardware test 42
High speed data logger module. 21
Host information 75

I

I/O assignment function 29
I/O assignment setting 50
Initial checks 84
Intelligent function module 14
Intelligent function module parameter. 52
Internal self-loopback test. 41
Interrupt module 21

L

L ERR. 36
LED comparison 125
Link information. 76
List of link special register (SW) 101
List of link special relay (SB). 100
List of special register for MELSECNET/H (MELSECNET/10 mode) remote I/O station (SD) 106
List of special relay for MELSECNET/H (MELSECNET/10 mode) remote I/O station (SM) 102
Loop status of each station. 78
Loop switching 81,83
Loop test (only for optical loop system) 44

M

Main base unit. 20
Main base unit for redundant power supply system . 20
MELSECNET/10 mode 13
MELSECNET/10 remote I/O module 13
MELSECNET/10 remote I/O station. 13
MELSECNET/10 remote master module 13
MELSECNET/H (MELSECNET/10 mode) remote I/O station 13
MELSECNET/H network module. 21
MELSECNET/H remote I/O module. 13
MES interface module 21
Mode setting switch 37
Multiple master system. 30
Multiplex transmission function (optical loop system) 29

N

Network diagnostics. 75
Network diagnostics (online test). 43
Network info. 76
Network module 13
Network monitor details 78
Network parameter 51

Number of online return stations setting function . . . 30

O

Online module change . . . 22
Other station information . . . 77

P

Parallel master system . . . 30
Parameter setting . . . 55
Parameter status of each station . . . 77
Peripheral . . . 13
PLC parameter . . . 49
PLC RAS setting . . . 50
Power supply module . . . 20
Precautions for mounting intelligent function modules . . . 22
Precautions for replacing systems . . . 53
Procedure before operation . . . 33
Program example . . . 61
PSU operation status of each station extension . . . 78

Q

Q series large type extension base unit (AnS series size) (type requiring a power supply module) . . . 20
Q series large type extension base unit (AnS series size) (type requiring no power supply module) . . . 20
Q series large type extension base unit (type requiring a power supply module) . . . 20
Q series large type extension base unit (type requiring no power supply module) . . . 20
Q series large type main base unit . . . 20
Q series large type main base unit (AnS series size) . . . 20

R

RAS function . . . 26,31
RD . . . 35
Redundant type extension base unit . . . 21
Reference manuals . . . 16
Relay station . . . 13
REM . . . 35
Remote I/O module . . . 13
Remote I/O station . . . 13
Remote master station . . . 13
Remote master station information . . . 79
Remote password . . . 31,51
Reserved station . . . 13
Reserved station designation of each station . . . 78
Reserved station function . . . 29
RESET switch . . . 38
RUN . . . 35

S

SD . . . 35
Self-loopback test . . . 40
Serial number display . . . 38
Setup confirmation test . . . 45
Slim type main base unit . . . 20
Software package . . . 19
Special function module . . . 14
Station number setting switches . . . 37
Station order check test (only for optical loop system) . . . 46
Status of self station . . . 79
Supported version . . . 19
System monitor for remote I/O stations . . . 31

T

T.PASS . . . 35
Transient transmission . . . 81
Transient transmission errors . . . 83
Transient transmission failure . . . 87
Transient transmission function . . . 29
Transient transmission function (irregular communications) . . . 31
Troubleshooting . . . 70
Troubleshooting for each phenomenon . . . 84

W

Web server module . . . 21
When the D.LINK LED is off . . . 74
When the ERR. LED is on or flashing . . . 73
When the L ERR. LED is on . . . 73
When the REM. LED is off or flashing . . . 72
When the RUN LED does not turn on . . . 72
When the T.PASS LED is off or flashing . . . 74

REVISIONS

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

Print date	*Manual number	Revision
March 2013	SH(NA)-081164ENG-A	First edition

Japanese manual version SH-081165-A

This manual confers no industrial property rights or any rights of any other kind, nor does it confer any patent licenses. Mitsubishi Electric Corporation cannot be held responsible for any problems involving industrial property rights which may occur as a result of using the contents noted in this manual.

© 2013 MITSUBISHI ELECTRIC CORPORATION

WARRANTY

Please confirm the following product warranty details before using this product.

1. Gratis Warranty Term and Gratis Warranty Range

If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the sales representative or Mitsubishi Service Company.
However, if repairs are required onsite at domestic or overseas location, expenses to send an engineer will be solely at the customer's discretion. Mitsubishi shall not be held responsible for any re-commissioning, maintenance, or testing on-site that involves replacement of the failed module.
[Gratis Warranty Term]
The gratis warranty term of the product shall be for one year after the date of purchase or delivery to a designated place.
Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be eighteen (18) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.
[Gratis Warranty Range]

(1) The range shall be limited to normal use within the usage state, usage methods and usage environment, etc., which follow the conditions and precautions, etc., given in the instruction manual, user's manual and caution labels on the product.
(2) Even within the gratis warranty term, repairs shall be charged for in the following cases.
    1. Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
    2. Failure caused by unapproved modifications, etc., to the product by the user.
    3. When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
    4. Failure that could have been avoided if consumable parts (battery, backlight, fuse, etc.) designated in the instruction manual had been correctly serviced or replaced.
    5. Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
    6. Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
    7. Any other failure found not to be the responsibility of Mitsubishi or that admitted not to be so by the user.

2. Onerous repair term after discontinuation of production

(1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued.
    Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.
(2) Product supply (including repair parts) is not available after production is discontinued.

3. Overseas service

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

4. Exclusion of loss in opportunity and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation of damages caused by any cause found not to be the responsibility of Mitsubishi, loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products, special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products, replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

5. Changes in product specifications

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

Microsoft, Windows, Windows NT, and Windows Vista are registered trademarks of Microsoft Corporation in the United States and other countries.
Pentium is a trademark of Intel Corporation in the United States and other countries.
Ethernet is a trademark of Xerox Corporation.
All other company names and product names used in this manual are trademarks or registered trademarks of their respective companies.

Q Corresponding MELSECNET/H Remote I/O Module

Reference Manual (MELSECNET/10 Mode)

MODEL	QJ72LP25-R-NET10-E
MODEL CODE	13JV30
SH(NA)-081164ENG-A(1303)MEE	

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE : TOKYO BUILDING, 2-7-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
NAGOYA WORKS : 1-14 , YADA-MINAMI 5-CHOME , HIGASHI-KU, NAGOYA , JAPAN

When exported from Japan, this manual does not require application to the Ministry of Economy, Trade and Industry for service transaction permission.

Specifications subject to change without notice.