

Personal Computer Embedded Type Servo System Controller

Simple Motion Board User's Manual (Network)

-MR-EM340GF



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.

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

- Configure safety circuits externally to ensure that the entire system operates safely even when a fault occurs in the personal computer. Failure to do so may result in an accident due to an incorrect output or malfunction.
 - (1) Configure external safety circuits, such as an emergency stop circuit, protection circuit, and protective interlock circuit for forward/reverse operation or upper/lower limit positioning.
 - (2) If an incorrect home position return direction is set, motion control may continue without deceleration. To prevent machine damage caused by this, configure an interlock circuit external to the Simple Motion board.
 - (3) When the Simple Motion board detects an error, the motion slows down and stops or the motion rapidly stops, depending on the stop group setting in parameter. Set the parameter to meet the specifications of a positioning control system. In addition, set the home position return parameter and positioning data within the specified setting range.
 - For the operating status of each station after a communication failure, refer to manuals relevant to the network. Incorrect output or malfunction due to a communication failure may result in an accident.
 - When modifying data of a running Simple Motion board, configure an interlock in the program to ensure that the entire system will always operate safely. For other forms of control (such as program modification, parameter change, forced output, or operating status change) of a running Simple Motion board, read the relevant manuals carefully and ensure that the operation is safe before proceeding. Improper operation may damage machines or cause accidents. Determine corrective actions to be taken in case of a communication failure.
 - Especially, when a remote Simple Motion board is controlled, immediate action cannot be taken if a problem occurs in the Simple Motion board due to a communication failure. To prevent this, configure an interlock in the program, and determine corrective actions to be taken in case of a communication failure.
 - Do not write any data to the "system area" and "write-protect area" of the buffer memory in the Simple Motion board. Doing so may cause malfunction of the Simple Motion board. For the "system area", and "write-protect area", refer to the user's manual for the Simple Motion board.
-

[Design Precautions]

WARNING

- If a communication cable is disconnected, the network may be unstable, resulting in a communication failure of multiple stations. Configure an interlock in the program to ensure that the entire system will always operate safely even if communications fail. Failure to do so may result in an accident due to an incorrect output or malfunction.
 - To maintain the safety of the Simple Motion board against unauthorized access from external devices via the network, take appropriate measures. To maintain the safety against unauthorized access via the Internet, take measures such as installing a firewall.
 - If safety standards (ex., robot safety rules, etc.,) apply to the system using the Simple Motion board, servo amplifier and servomotor, make sure that the safety standards are satisfied.
 - Construct a safety circuit externally of the Simple Motion board or servo amplifier if the abnormal operation of the Simple Motion board or servo amplifier differs from the safety directive operation in the system.
-

[Design Precautions]

CAUTION

- Do not install the control lines or communication cables together with the main circuit lines or power cables. Keep a distance of 100 mm or more between them. Failure to do so may result in malfunction due to noise.
 - After the personal computer is powered on or rebooted, the time taken for the Simple Motion board to enter the RUN status varies depending on the system configuration, parameter settings, and/or program size. Design circuits so that the entire system will always operate safely, regardless of the time.
 - Do not power off or reboot the personal computer during the setting registration. Doing so will make the data in the flash ROM undefined. The data need to be set in the buffer memory and to be written to the flash ROM again. Doing so may cause malfunction or failure of the Simple Motion board.
-

[Installation Precautions]

WARNING

- Shut off the external power supply (all phases) used in the system before mounting or removing the Simple Motion board to or from the personal computer. Failure to do so may result in electric shock or cause the Simple Motion board to fail or malfunction.
 - Do not touch any connectors while power is on. Doing so may cause electric shock or malfunction.
-

[Installation Precautions]

CAUTION

- Use the Simple Motion board in an environment that meets the general specifications in the Simple Motion Board User's Manual. Failure to do so may result in electric shock, fire, malfunction, or damage to or deterioration of the product.
 - Fix the Simple Motion board securely with the board-fixing 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 Simple Motion board, resulting in drop, short circuit, or malfunction. For the tightening torque of the board-fixing screws, refer to the manual supplied with the personal computer.
 - Do not directly touch any conductive parts and electronic components of the Simple Motion board. Hold the front panel or edge of the print board. Not holding by the front panel or edges may cause malfunction or failure of the Simple Motion board.
 - Do not disassemble or modify the Simple Motion board. Doing so may cause failure, malfunction, injury, or a fire.
 - Before handling the Simple Motion board, 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 Simple Motion board to fail or malfunction.
 - Install the Simple Motion board to a personal computer which is compliant with PCI Express[®] standard. Failure to do so may cause a failure or malfunction.
 - Securely insert the Simple Motion board into the slot following the board installation instruction of the personal computer. Incorrect insertion of the Simple Motion board may cause malfunction, failure, or drop of the board.
 - When installing the Simple Motion board, take care not to contact with other boards.
 - When installing the Simple Motion board, take care not to get injured by an implemented component or a surrounding member.
 - Handle the Simple Motion board in a place where static electricity will not be generated. Failure to do so may cause a failure or malfunction.
 - The Simple Motion board is included in an antistatic envelope. When storing or transporting it, be sure to put it in the antistatic envelope. Failure to do so may cause a failure or malfunction.
 - Do not drop or apply a strong impact to the Simple Motion board. Doing so may cause a failure or malfunction.
-

[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 Simple Motion board.
 - After installation and wiring, attach the cover of the equipment the Simple Motion board is installed to before turning it on for operation. Failure to do so may result in electric shock.
-

[Wiring Precautions]

CAUTION

- Ground the controllers, servo amplifiers and servo motors embedded with a Simple Motion board with a ground resistance of 100 ohm or less. Do not use a common grounding with other equipment.
 - Check the rated voltage and signal layout before wiring to the Simple Motion board, and connect the cables correctly. Connecting a power supply with a different voltage rating or incorrect wiring may cause fire or failure.
 - Connectors must be correctly connected. Incomplete connections may cause short circuit, fire, or malfunction.
 - Securely connect the connector to the Simple Motion board. Poor contact 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 100 mm or more between them. Failure to do so may result in malfunction due to noise.
 - Place the cables in a duct or clamp them. If not, dangling cable may swing or inadvertently be pulled, resulting in damage to the Simple Motion board or cables or malfunction due to poor contact.
 - Check the interface type and correctly connect the cable. Incorrect wiring (connecting the cable to an incorrect interface) may cause failure of the Simple Motion board and external device.
 - When disconnecting the cable from the Simple Motion board, do not pull the cable by the cable part. For the cable with connector, hold the connector part of the cable. Pulling the cable connected to the Simple Motion board may result in malfunction or damage to the Simple Motion board or cable.
 - Prevent foreign matter such as dust or wire chips from entering the personal computer. Such foreign matter can cause a fire, failure, or malfunction.
 - For Ethernet cables to be used in the system, select the ones that meet the specifications in the user's manual of the Simple Motion board. If not, normal data transmission is not guaranteed.
-

[Startup and Maintenance Precautions]

WARNING

- Shut off the external power supply (all phases) used in the system before cleaning or retightening the board-fixing screws. Failure to do so may result in electric shock or malfunction.
 - Turn off the external power supply for the system in all phases before installing the Simple Motion board to or removing it from the personal computer. Failure to do so may result in electric shock or cause the Simple Motion board to fail or malfunction.
 - Do not connect or disconnect any communication cable while power is on. Doing so may result in a malfunction.
-

[Startup and Maintenance Precautions]

CAUTION

- When modifying data of a running Simple Motion board, configure an interlock in the program to ensure that the entire system will always operate safely. For other forms of control (such as program modification, parameter change, forced output, or operating status change) of a running Simple Motion board, read the relevant manuals carefully and ensure that the operation is safe before proceeding. Improper operation may damage machines or cause accidents. Determine corrective actions to be taken in case of a communication failure.
 - Especially, when a remote Simple Motion board is controlled, immediate action cannot be taken if a problem occurs in the Simple Motion board due to a communication failure. To prevent this, configure an interlock in the program, and determine corrective actions to be taken in case of a communication failure.
 - Do not disassemble or modify the Simple Motion board. Doing so may cause failure, malfunction, injury, or a fire.
 - Use any radio communication device such as a cellular phone or PHS (Personal Handyphone System) more than 25 cm away in all directions from the Simple Motion board. Failure to do so may cause malfunction.
 - Shut off the external power supply (all phases) used in the system before mounting or removing the Simple Motion board. Failure to do so may cause the Simple Motion board to fail or malfunction.
 - Tighten the board-fixing screws within the specified torque range. Undertightening can cause drop of the component or wire, short circuit, or malfunction. Overtightening can damage the screw and/or Simple Motion board, resulting in drop, short circuit, or malfunction. For the tightening torque of the board-fixing screws, refer to the manual supplied with the personal computer.
 - After the first use of the product, do not mount/remove the Simple Motion board to/from the personal computer more than 50 times. Exceeding the limit of 50 times may cause malfunction.
 - Maintenance must be performed by qualified maintenance personnel with knowledge.
 - Before handling the Simple Motion board, 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 Simple Motion board to fail or malfunction.
 - The Simple Motion board is included in an antistatic envelope. When storing or transporting it, be sure to put it in the antistatic envelope. Failure to do so may cause a failure or malfunction.
 - The microprocessor built in the Simple Motion board will reach a high temperature during operation. Do not touch it directly when replacing the Simple Motion board. Doing so may result in a burn.
 - Before testing the operation, set a low speed value for the speed limit parameter so that the operation can be stopped immediately upon occurrence of a hazardous condition.
 - Confirm and adjust the program and each parameter before operation. Unpredictable movements may occur depending on the machine.
 - When using the absolute position system function, on starting up, and when the Simple Motion board or absolute position motor has been replaced, always perform a home position return.
 - Before starting the operation, confirm the brake function.
 - Do not perform a megger test (insulation resistance measurement) during inspection.
 - After maintenance and inspections are completed, confirm that the position detection of the absolute position detection function is correct.
 - Extreme adjustments and changes may lead to unstable operation, so never make them.
-

[Startup and Maintenance Precautions]

CAUTION

- Do not place the Simple Motion board or servo amplifier on metal that may cause a power leakage or wood, plastic or vinyl that may cause static electricity buildup. Doing so can cause malfunction or failure of the Simple Motion board.
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[Operating Precautions]

CAUTION

- When changing data and operating status, and modifying program of the running Simple Motion board, read relevant manuals carefully and ensure the safety before operation. Incorrect change or modification may cause system malfunction, damage to the machines, or accidents.
 - Do not power off or reboot the personal computer while the setting values in the buffer memory are being written to the flash ROM in the Simple Motion board. Doing so will make the data in the flash ROM undefined. The values need to be set in the buffer memory and written to the flash ROM again. Doing so also can cause malfunction or failure of the Simple Motion board.
 - Note that when the reference axis speed is specified for interpolation operation, the speed of the partner axis (2nd, 3rd, or 4th axis) may exceed the speed limit value.
 - Do not go near the machine during test operations or during operations such as teaching. Doing so may lead to injuries.
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[Disposal Precautions]

CAUTION

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

[Transportation Precautions]

CAUTION

- The halogens (such as fluorine, chlorine, bromine, and iodine), which are contained in a fumigant used for disinfection and pest control of wood packaging materials, may cause failure of the product. Prevent the entry of fumigant residues into the product or consider other methods (such as heat treatment) instead of fumigation. The disinfection and pest control measures must be applied to unprocessed raw wood.
 - The Simple Motion board is a precision machine, so do not drop or apply strong impacts on it.
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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 personal computer embedded type servo system controllers.

This manual describes the functions, programming, and troubleshooting of the relevant products listed below.

Before using this product, please read this manual and the relevant manuals carefully and develop familiarity with the functions and performance of the personal computer embedded type servo system controller to handle the product correctly. When applying the program examples provided 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.

Relevant products

MR-EM340GF

COMPLIANCE WITH EMC AND LOW VOLTAGE DIRECTIVES

Method of ensuring compliance

To ensure that this product maintains EMC and Low Voltage Directives, please refer to the following manual.

 Simple Motion Board User's Manual (Startup)

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RELEVANT MANUALS

Manual name [manual number]	Description	Available form
Simple Motion Board User's Manual (Network) [IB-0300328] (This manual)	Functions, parameter settings, troubleshooting, and buffer memory of CC-Link IE Field Network	Print book e-Manual PDF
Simple Motion Board User's Manual (Startup) [IB-0300322]	Specifications, procedures before operation, system configuration, wiring, and operation examples of the Simple Motion board	Print book e-Manual PDF
Simple Motion Board User's Manual (Application) [IB-0300324]	Functions, input/output signals, buffer memory, parameter settings, programming, and troubleshooting of the Simple Motion board	Print book e-Manual PDF
Simple Motion Board User's Manual (Advanced Synchronous Control) [IB-0300326]	Functions and programming for the synchronous control of the Simple Motion board	Print book e-Manual PDF
Simple Motion Board User's Manual (API Library) [IB-0300330]	API library and others that the host personal computer uses to control the Simple Motion board	Print book e-Manual PDF



e-Manual refers to the Mitsubishi FA electronic book manuals that can be browsed using a dedicated tool.

e-Manual has the following features:

- Required information can be cross-searched in multiple manuals.
- Other manuals can be accessed from the links in the manual.
- The hardware specifications of each part can be found from the product figures.
- Pages that users often browse can be bookmarked.

TERMS

Unless otherwise specified, this manual uses the following terms.

Term	Description
API library	A general name for the library that creates the application on the host personal computer controlling the Simple Motion board
Baton pass	A token to send data over a network
Buffer memory	A memory in the Simple Motion board, where data (such as setting values and monitoring values) are stored
CC-Link IE Field Network	A high-speed and large-capacity open field network that is based on Ethernet (1000BASE-T)
Cyclic transmission	A function by which data are periodically exchanged among stations on the network using link devices
Data link	A generic term for cyclic transmission and transient transmission
Device	A device (X, Y, RX, RY, or others) in the Simple Motion board
Disconnection	A process of stopping data link if a data link error occurs
EM Configurator	A product name for start-up and examination tool for Simple Motion board
Host personal computer	A general name for a personal computer which operates user programs
Intelligent device station	A station that exchanges I/O signals (bit data) and I/O data (word data) with another station by cyclic transmission. This station responds to a transient transmission request from another station and also issues a transient transmission request to another station.
Label	A label that represents one of memory areas (I/O signals and buffer memory areas) specific to the Simple Motion board in a given character string
Link device	A device (RX, RY, RWr, or RWw) in a module on CC-Link IE Field Network
Link refresh	Automatic data transfer between a link device of the master station and a device in a CPU module
Link scan (link scan time)	Time required for all the stations on the network to transmit data. The link scan time depends on data volume and the number of transient transmission requests.
Link special register (SW)	Word data that indicates the operating status and data link status of a module on CC-Link IE Field Network
Link special relay (SB)	Bit data that indicates the operating status and data link status of a module on CC-Link IE Field Network
Local station	A station that performs cyclic transmission and transient transmission with the master station and other local stations
Master operating station	A station that controls the entire network in the network where a master station and submaster station are connected. Only one master station can be used in a network.
Master station	A station that controls the entire network. This station can perform cyclic transmission and transient transmission with all stations. Only one master station can be used in a network.
Master/local module	A generic term for the following modules when the CC-Link IE Field Network function is used: <ul style="list-style-type: none"> • RJ71GF11-T2 • RJ71EN71 • RnENCPU
MR-EM340GF	Another term for the Simple Motion board compatible with CC-Link IE Field Network
Network module	A generic term for the following modules: <ul style="list-style-type: none"> • Ethernet interface module • CC-Link IE Controller Network module • Module on CC-Link IE Field Network • MELSECNET/H network module • MELSECNET/10 network module • RnENCPU (network part)
Operation cycle	A motion operation cycle that is set in the inter-module synchronization cycle setting of the Simple Motion board
RAS	The abbreviation for Reliability, Availability, and Serviceability. This term refers to usability of automated equipment.
Remote device station	A station that exchanges I/O signals (bit data) and I/O data (word data) with another station by cyclic transmission. This station responds to a transient transmission request from another station.
Remote I/O station	A station that exchanges I/O signals (bit data) with the master station by cyclic transmission
Remote input (RX)	Bit data input from a slave station to the master station (For some areas in a local station, data are output in the opposite direction.)
Remote output (RY)	Bit data output from the master station to a slave station (For some areas in a local station, data are output in the opposite direction.)
Remote register (RWr)	Word data input from a slave station to the master station (For some areas in a local station, data are output in the opposite direction.)
Remote register (RWw)	Word data output from the master station to a slave station (For some areas in a local station, data are output in the opposite direction.)
Reserved station	A station reserved for future use. This station is not actually connected, but counted as a connected station.

Term	Description
Return	A process of restarting data link when a station recovers from an error
Routing	A process of selecting paths for communication with other networks. There are two types of routing: dynamic routing that auto-selects the communication routes, and static routing where communication routes are arbitrarily set.
Servo amplifier	A generic term for a drive unit Unless specified in particular, indicates the motor driver unit of the sequential command method which is controlled by the Simple Motion board (belonging to own station).
Simple Motion board	The abbreviation for the personal computer embedded type servo system controller Simple Motion board
Slave station	A generic term for a local station, remote I/O station, remote device station, and intelligent device station
Submaster operating station	A station that monitors the status of a master operating station in the network where a master station and submaster station are connected. Only one master station can be used in a network.
Submaster station	A station that serves as a master station to control the entire network if the master station is disconnected. Only one master station can be used in a network.
Transient transmission	A function of communication with another station, which is used when requested by EM Configurator
User program	A general name for applications using the API library

1 FUNCTIONS

1.1 Fixed Cycle Communication

The communication cycle of the Simple Motion board is fixed cycle. The communication is performed with slave modules in a cycle set in the inter-module synchronization cycle setting.

1.2 CC-Link IE Field Network Synchronous Communication Function

A slave module which supports the CC-Link IE Field Network synchronous communication function operates synchronously with the inter-module synchronization cycle of the Simple Motion board (the communication cycle of CC-Link IE Field Network). Therefore, the operation timing between the Simple Motion board and each slave module can be synchronized. A slave module which does not support the CC-Link IE Field Network synchronous communication function is also connectable. However, the operation is not synchronized with the operation cycle of the Simple Motion board. Therefore, the operation timing of the slave module is not synchronized with the Simple Motion board.

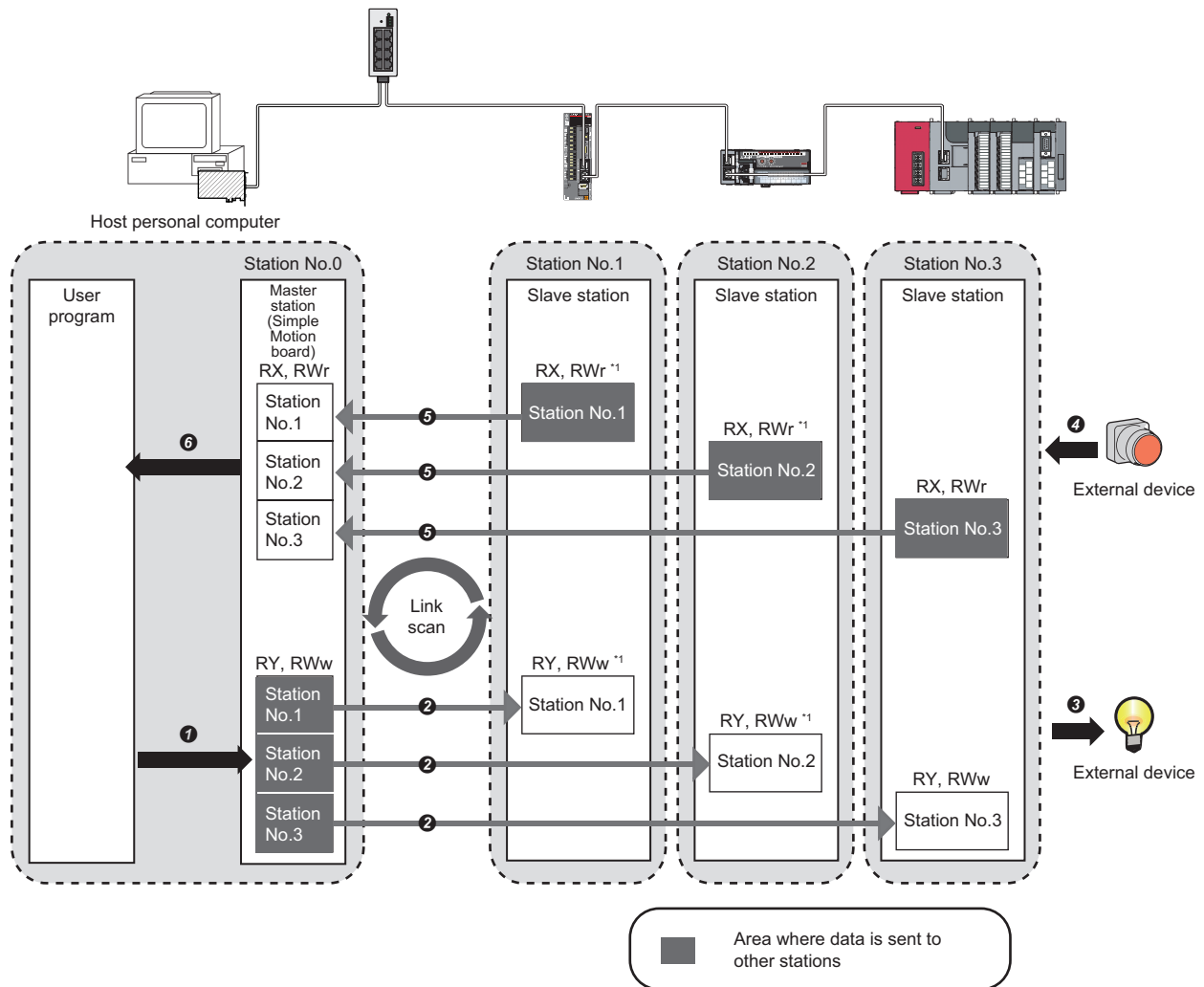
1.3 Cyclic Transmission

This function allows data to be periodically exchanged among stations on the same network using link devices.

Data flow and link device assignment

Master station and slave stations (except for local stations)

One-to-one communication is possible between the master and slave stations. The status data of the link devices (RY, RWw) of the master station is output to the external device of the slave station, and the input status information from the external device of the slave station is stored in the link devices (RX, RWr) of the master station.



*1 There is no RX or RY depending on the slave module.

• Output from the master station

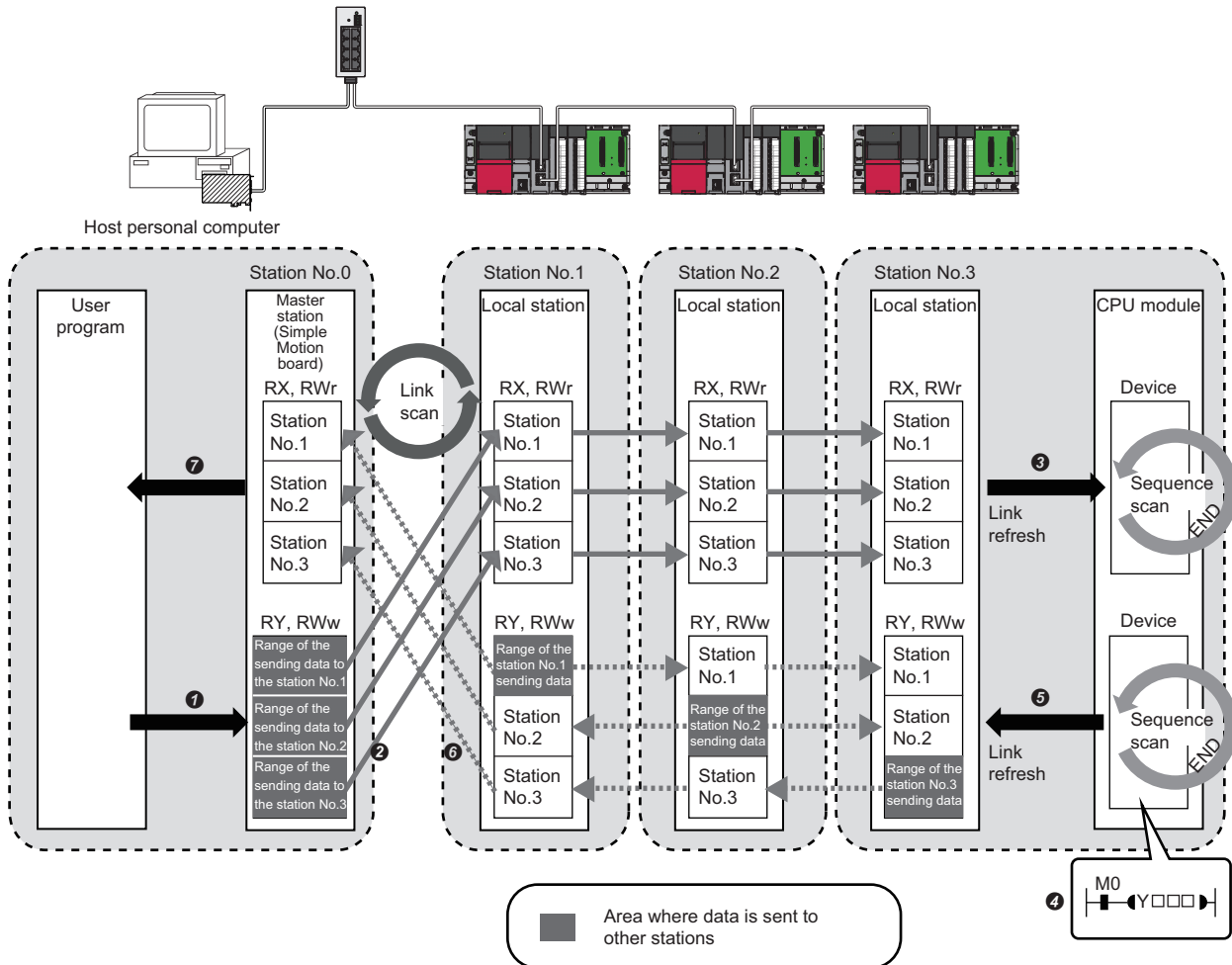
- ① The user program changes the link devices (RY, RWw) of the master station.
- ② The status data of the link devices (RY, RWw) of the master station are stored in the link devices (RY, RWw) of each slave station by link scan.
- ③ The status data of the link devices (RY, RWw) of the slave station are output to the external device.

• Input from the slave station

- ④ The status data of the external device are stored in the link devices (RX, RWr) of the slave station.
- ⑤ The status data of the link devices (RX, RWr) of the slave station are stored in the link devices (RX, RWr) of the master station by link scan.
- ⑥ The status data of the link devices (RX, RWr) of the master station are read by the user program.

Master station and local stations

Data can be written into the send range of the link devices (RY, RWw) of each station and can be sent to any station on the same network. The status data of the link devices (RY, RWw) of the master station are stored in the link devices (RX, RWr) of each local station. The status data of the link devices (RY, RWw) of local stations are stored in the link devices (RX, RWr) of the master station and the link devices (RY, RWw) of other local stations.



• Output from the master station

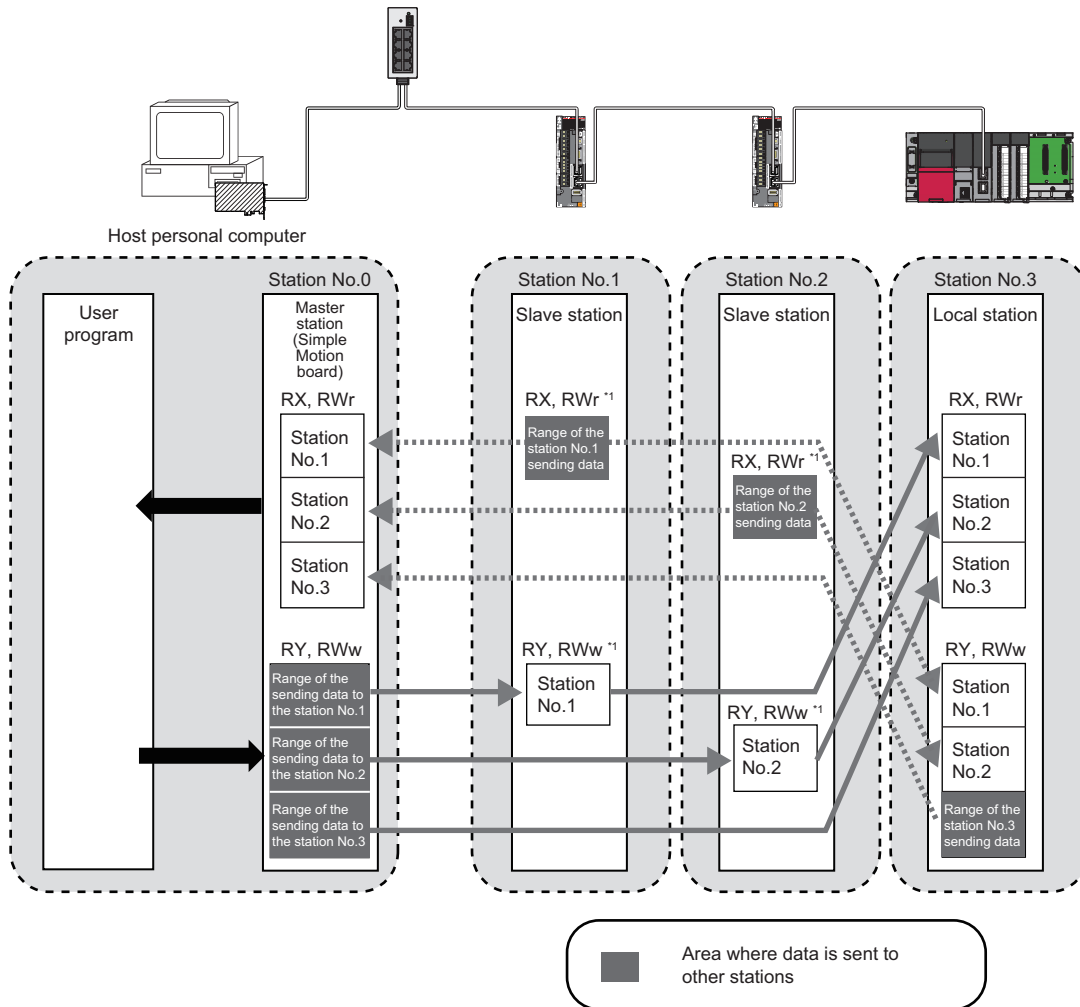
- ① The user program changes the link devices (RY, RWw) of the master station.
- ② The status data of the link devices (RY, RWw) of the master station are stored in the link devices (RX, RWr) of the local station by link scan.
- ③ The status data of the link devices (RX, RWr) of the local station are stored in the devices of the CPU module.

• Input from the local station

- ④ The device of the CPU module turns on.
- ⑤ The device status data of the CPU module are stored in the own station send range of the link devices (RY, RWw).
- ⑥ The status data of the link devices (RY, RWw) of the local station are stored in the link devices (RX, RWr) of the master station by link scan.
- ⑦ The status data of the link devices (RX, RWr) of the master station are read by the user program.

Coexistence of local stations and the other slave stations (other than local stations)

The data of all slave stations are also stored in the local stations in the same way as the master station.



*1 There is no RX or RY depending on the slave module.

Setting method

The link devices can be assigned in "Network Configuration Settings" under "Basic Settings". (Page 33 Network Configuration Settings)

Direct access to link devices

This function directly accesses the link devices (RX, RY, RWr, RWw, SB, or SW) of the Simple Motion board from the user program using the API library.

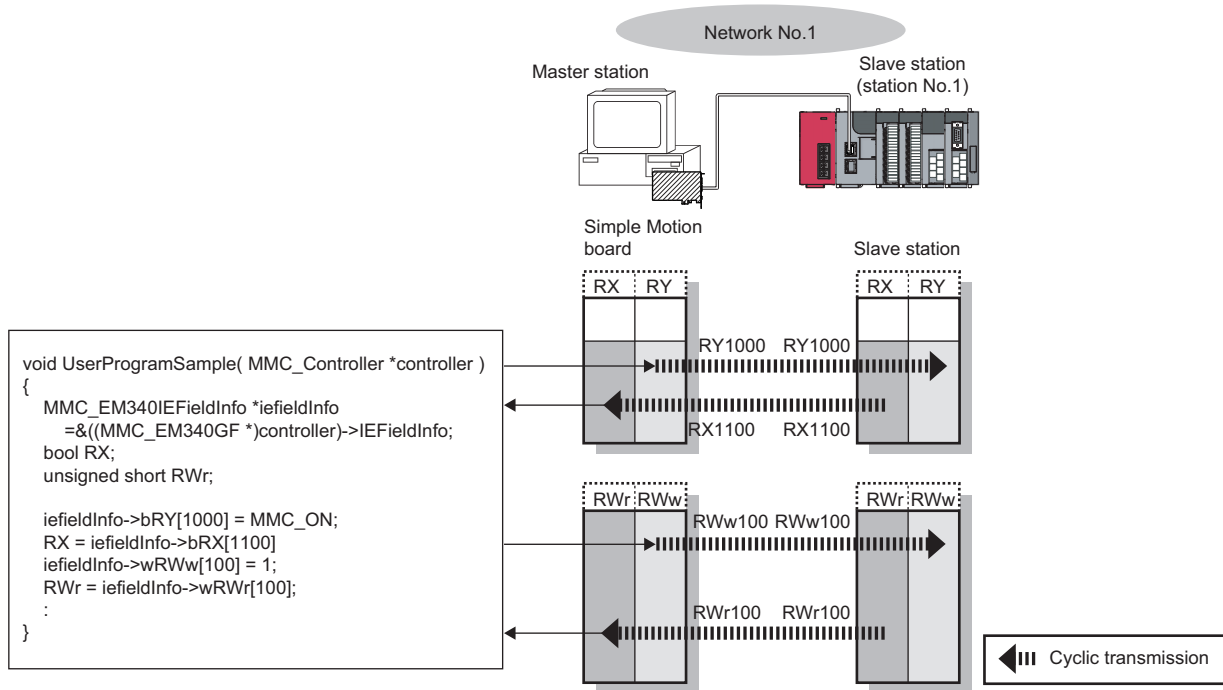
For details of the API library, refer to the following.

📖 Simple Motion Board User's Manual (API Library)

Specification method

Specify the link devices using labels.

Ex.



Readable and writable range

All link devices of the Simple Motion board can be specified. (📖 Page 17 Specification method)

Precautions

■Cyclic data integrity assurance

Use 32-bit data assurance, or if cyclic data of more than 32 bits needs to be assured, use interlock programs. (📖 Page 18 Cyclic data integrity assurance)

Cyclic data integrity assurance

This function assures the cyclic data integrity in units of 32 bits.

○: Assured

Method	Description	Availability	
		Direct access to link devices	Access to buffer memory
32-bit data assurance	Assures data in 32-bit units. Data is assured by satisfying assignment conditions of link devices and executing 32-bit access.	○	○
Interlock program	Assures data of more than 32 bits. Data is assured by performing interlocks on user programs.	○	○

32-bit data assurance

The RW and RWw data can be assured in 32-bit units.

■Data integrity assurance at the time of direct access to link devices

The integrity of 32-bit data can be assured by satisfying the following conditions and executing 32-bit access.

- The start device No. of RWr, RWw is multiples of 2.
- The number of points assigned to RWr, RWw is multiples of 2.

■Data integrity assurance at the time of access to buffer memory

The integrity of 32-bit data can be assured by satisfying the following conditions and executing 32-bit access.

- The start address of the buffer memory is multiples of 2.

Interlock program

Data of more than 32 bits can be assured with the station-based block data assurance setting disabled. Use either of the following methods.

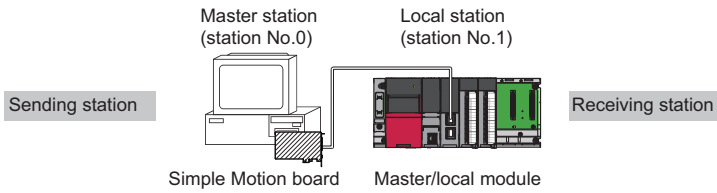
- Interlock using RX and RY
- Interlock using devices other than RX and RY (when RX, RY cannot be used as an interlock device)

For details of the API library, refer to the following.

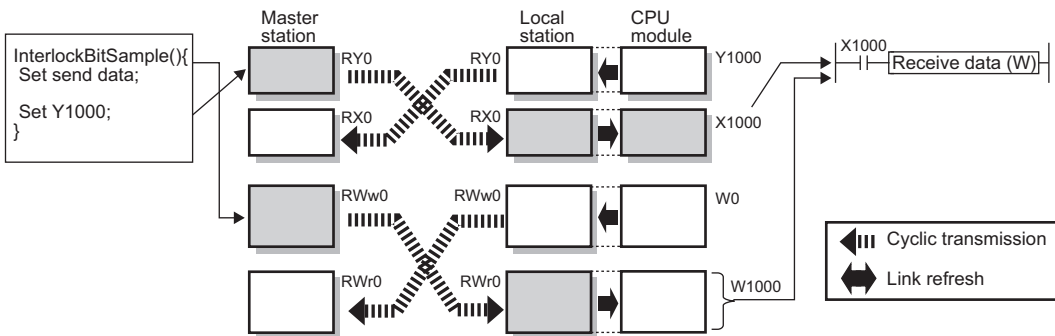
📖 Simple Motion Board User's Manual (API Library)

■ Example of interlock using RX and RY

An example of sending data in "Data 1 to 4" of the master station (station No.0) to W1000 to W1003 of the local station (station No.1) is shown below. (RX1000 and RY1000 are used for a handshake to the CPU module.)



• Data flow



- Program

Program example

Sending station: Master station (station No.0)

C++

```
void InterlockBitSample( MMC_Controller *controller )
{
    MMC_EM340IEFieldInfo *iefieldInfo = &((MMC_EM340GF *)controller)->IEFieldInfo;
    unsigned short data[4] = { 1, 2, 3, 4 };          /* Data 1 to 4 */
    unsigned long retCode;

    /* Store "Data 1 to 4" in RWw0 to RWw3 *//* (0) */
    iefieldInfo->wRWw[0] = data[0];
    iefieldInfo->wRWw[1] = data[1];
    iefieldInfo->wRWw[2] = data[2];
    iefieldInfo->wRWw[3] = data[3];

    /* Turn Y1000 of the sending station for a handshake ON *//* (1) */
    iefieldInfo->bRY[1000] = MMC_ON;

    /* Wait until X1000 of the sending station for a handshake is turned ON *//* (2) */
    iefieldInfo->bRX[1000].Wait( MMC_WAIT_EQUAL, MMC_ON, 1000 );

    /* Turn Y1000 of the sending station for a handshake OFF *//* (2) */
    iefieldInfo->bRY[1000] = MMC_OFF;

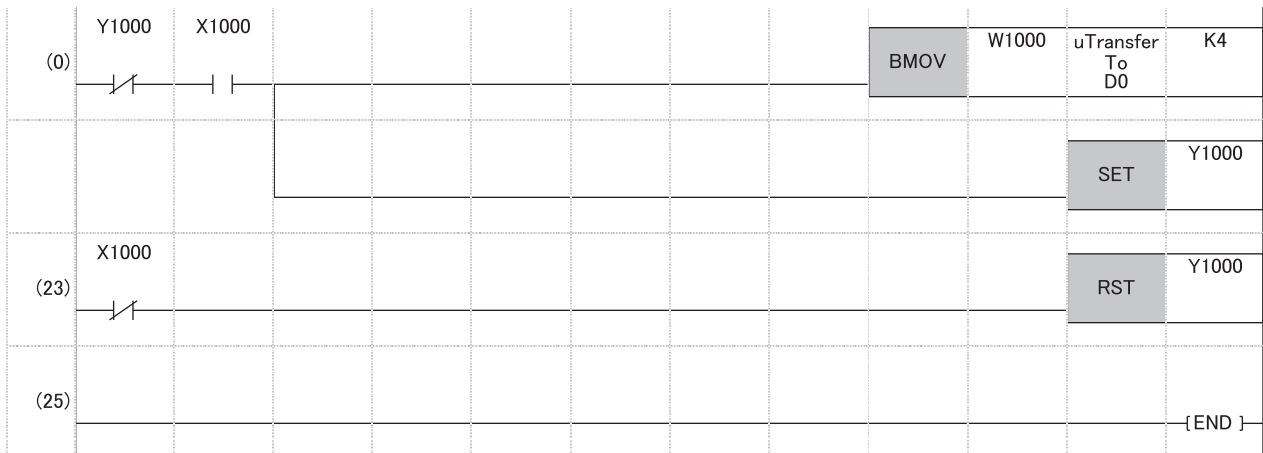
    /* Wait until X1000 of the sending station for a handshake is turned OFF *//* (2) */
    iefieldInfo->bRX[1000].Wait( MMC_WAIT_EQUAL, MMC_OFF, 1000 );
}

```

Receiving station: Local station (station No.1)

LD

Classification	Description								
Label to be defined	Define global labels as shown below:								
	<table border="1"> <thead> <tr> <th>Label Name</th> <th>Data Type</th> <th>Class</th> <th>Assign (Device/Label)</th> </tr> </thead> <tbody> <tr> <td>1 uTransferTo</td> <td>Word [Unsigned]/Bit String [16-bit][0..3]</td> <td>VAR_GLOBAL</td> <td>D0</td> </tr> </tbody> </table>	Label Name	Data Type	Class	Assign (Device/Label)	1 uTransferTo	Word [Unsigned]/Bit String [16-bit][0..3]	VAR_GLOBAL	D0
Label Name	Data Type	Class	Assign (Device/Label)						
1 uTransferTo	Word [Unsigned]/Bit String [16-bit][0..3]	VAR_GLOBAL	D0						

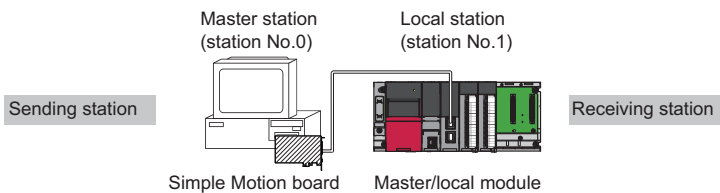


• Program flow

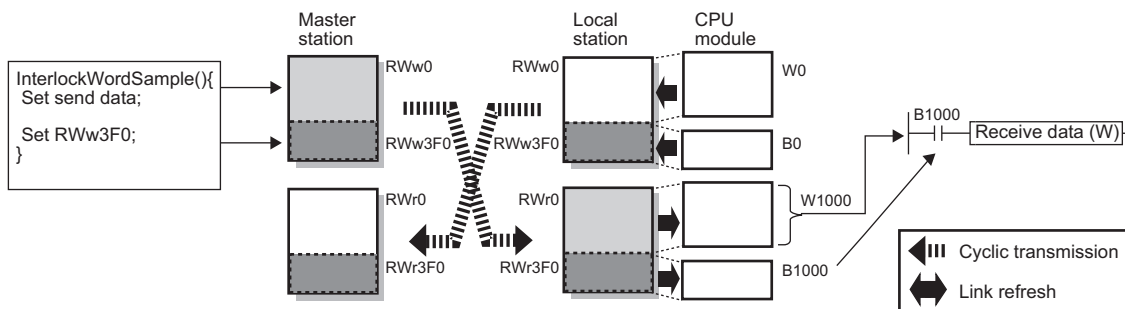
- ① Sending station (0) Store "Data 1 to 4" in RWw0 to RWw3.
- ② Sending station (1) After "Data 1 to 4" are stored, turn on Y1000 of the sending station for a handshake.
- ③ Receiving station (0) Cyclic transmission sends RWw followed by RY, and X1000 of the receiving station turns on.
- ④ Receiving station (0) The contents of W1000 to W1003 are stored in "uTransferTo" (D0 to D3).
- ⑤ Receiving station (0) Upon completion of storage in "uTransferTo" (D0 to D3), turn on Y1000 of the receiving station for a handshake.
- ⑥ Sending station (2) When X1000 of the sending station turns on, turn off Y1000 of the sending station.
- ⑦ Receiving station (23) When X1000 of the receiving station turns off, turn off Y1000 of the receiving station.

■ Example of interlock using devices other than RX and RY

An example of sending data in "Data 1 to 4" of the master station (station No.0) to W1000 to W1003 of the local station (station No.1) is shown below. This is a method used when RX and RY cannot be used as interlock devices. (RWw3F0 and RWr3F0 are used for a handshake to the CPU module.)



• Data flow



- Program

Program example

Sending station: Master station (station No.0)

C++

```
void InterlockWordSample( MMC_Controller *controller )
{
    MMC_EM340IEFieldInfo *iefieldInfo = &((MMC_EM340GF *)controller)->IEFieldInfo;
    unsigned short data[4] = { 1, 2, 3, 4 };          /* Data 1 to 4 */
    unsigned long retCode;

    /* Store "Data 1 to 4" in RWw0 to RWw3 *//* (0) */
    iefieldInfo->wRWw[0] = data[0];
    iefieldInfo->wRWw[1] = data[1];
    iefieldInfo->wRWw[2] = data[2];
    iefieldInfo->wRWw[3] = data[3];

    /* Set 1 to RWw3F0 of the sending station for a handshake *//* (1) */
    iefieldInfo->wRWw[0x3F0] = 1;

    /* Wait until RWr3F0 of the sending station for a handshake is set to 1 *//* (2) */
    iefieldInfo->wRWw[0x3F0].Wait( MMC_WAIT_EQUAL, 1, 1000 );

    /* Set 0 to RWw3F0 of the sending station for a handshake *//* (2) */
    iefieldInfo->wRWw[0x3F0] = 0;

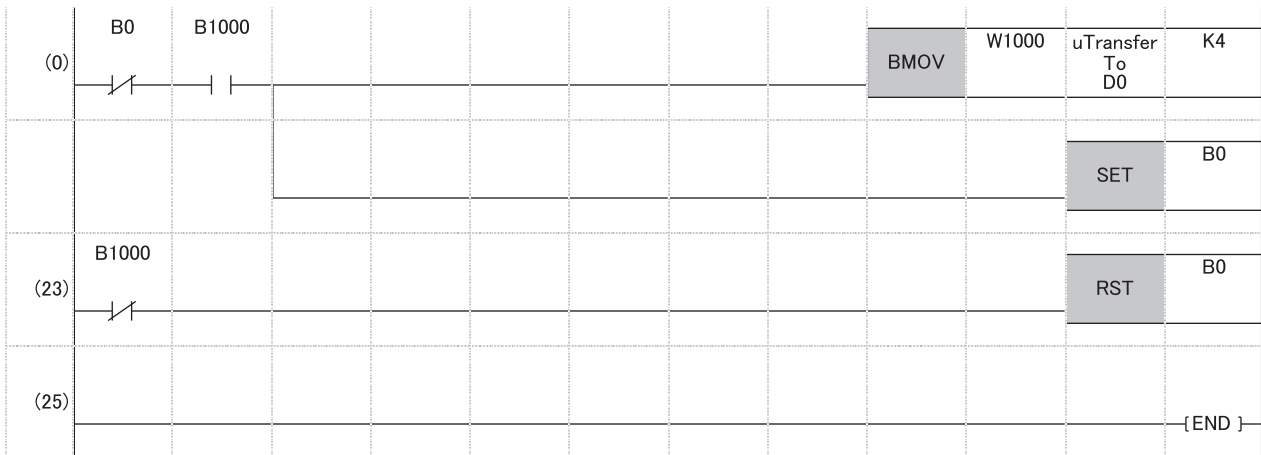
    /* Wait until RWr3F0 of the sending station for a handshake is set to 0 *//* (2) */
    iefieldInfo->wRWw[0x3F0].Wait( MMC_WAIT_EQUAL, 0, 1000 );
}

```

Receiving station: Local station (station No.1)

LD

Classification	Description										
Label to be defined	Define global labels as shown below:										
	<table border="1"> <thead> <tr> <th></th> <th>Label Name</th> <th>Data Type</th> <th>Class</th> <th>Assign (Device/Label)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>uTransferTo</td> <td>Word [Unsigned]/Bit String [16-bit](0..3)</td> <td>VAR_GLOBAL</td> <td>D0</td> </tr> </tbody> </table>		Label Name	Data Type	Class	Assign (Device/Label)	1	uTransferTo	Word [Unsigned]/Bit String [16-bit](0..3)	VAR_GLOBAL	D0
	Label Name	Data Type	Class	Assign (Device/Label)							
1	uTransferTo	Word [Unsigned]/Bit String [16-bit](0..3)	VAR_GLOBAL	D0							



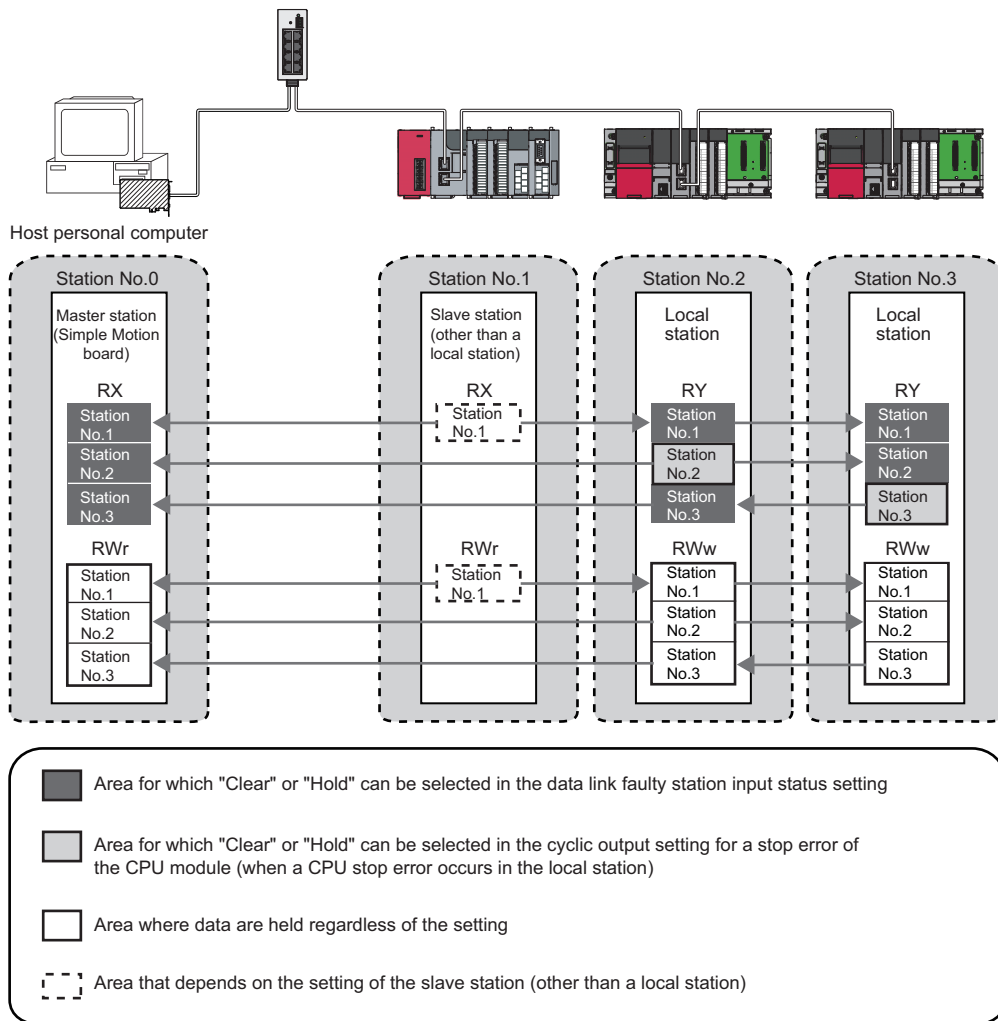
• Program flow

- ❶ Sending station (0) Store "Data 1 to 4" in RWw0 to RWw3.
- ❷ Sending station (1) After "Data 1 to 4" are stored, turn on RWw3F0 of the sending station for a handshake.
- ❸ Receiving station (0) Cyclic transmission sends signals from RWw0 to RWw3EF followed by RWw3F0 and stores them in RWr0 to RWr3EF and RWr3F0 in this order at the receiving station and B1000 of the receiving station turns on.
- ❹ Receiving station (0) The contents of W1000 to W1003 are stored in "uTransferTo" (D0 to D3).
- ❺ Receiving station (0) Upon completion of storage in "uTransferTo" (D0 to D3), turn on B0 of the receiving station for a handshake.
- ❻ Sending station (2) When RWr3F0 of the sending station turns on, turn off RWw of the sending station.
- ❼ Receiving station (23) When B1000 of the receiving station turns off, turn off B0 of the receiving station.

Input status setting when data link failure occurs

For the Simple Motion board, status of input from a data link faulty station can be set.

Status	Range where the settings are enabled
Input status of data link faulty station	Clearing or holding the following RX input data can be selected. <ul style="list-style-type: none"> • Master station RX Even if "Clear" is set, input data will be held for two seconds after communication failure such as Ethernet cable disconnection. The RWr input data is held regardless of any setting. <ul style="list-style-type: none"> • Master station RWr



Setting method

Input status of data link faulty station

Set the input status of data link faulty stations RX under "I/O Maintenance Settings" in "Application Settings". (Page 36 Application Settings)

Precautions

When data link is stopped by users

When cyclic transmission is stopped using one of the following methods, the input status of the own station is held even if "Data Link Error Station Setting" under "I/O Maintenance Settings" is set to "Clear" in "Application Settings".

- CC-Link IE Field Network diagnostics (Page 43 Checking the Network Status)
- Link special relay (SB), link special register (SW) (Page 76 List of Link Special Relay (SB), Page 83 List of Link Special Register (SW))


Output status setting when failure occurs in the host personal computer

When failure occurs in the host personal computer mounted with the Simple Motion board, whether cyclic data output is held or cleared can be selected.

Refer to the following for failure of the personal computer (User watchdog, PCI Express link-down).

 Simple Motion Board User's Manual (Application)

Setting method

Under "I/O Maintenance Settings" in "Application Settings", set the output status for the case where failure occurs in the personal computer. ( Page 36 Application Settings)

Precautions

■When the setting is disabled


For RWw, the cyclic data output is held, even if the output status setting where failure occurs in the host personal computer is set to be cleared.

■When the output status setting where failure occurs in the host personal computer is set to clear

When failure occurs in the host personal computer, the forced output to slave stations cannot be executed using EM Configurator.

Cyclic transmission stop and restart

This function stops the cyclic transmission during debugging and other operations. (Data reception from a slave station and data sending from the own station are stopped.) Also, the stopped cyclic transmission is restarted. Transient transmission does not stop.

Cyclic transmission is stopped and restarted using the link start/stop of the CC-Link IE Field Network diagnostics. ( Page 53 Link Start/Stop)

Restriction

When the software version of the Simple Motion board is "Ver.01":

Cyclic transmission can be started and stopped using link special relay (SB) and link special register (SW).

1.4 Transient Transmission

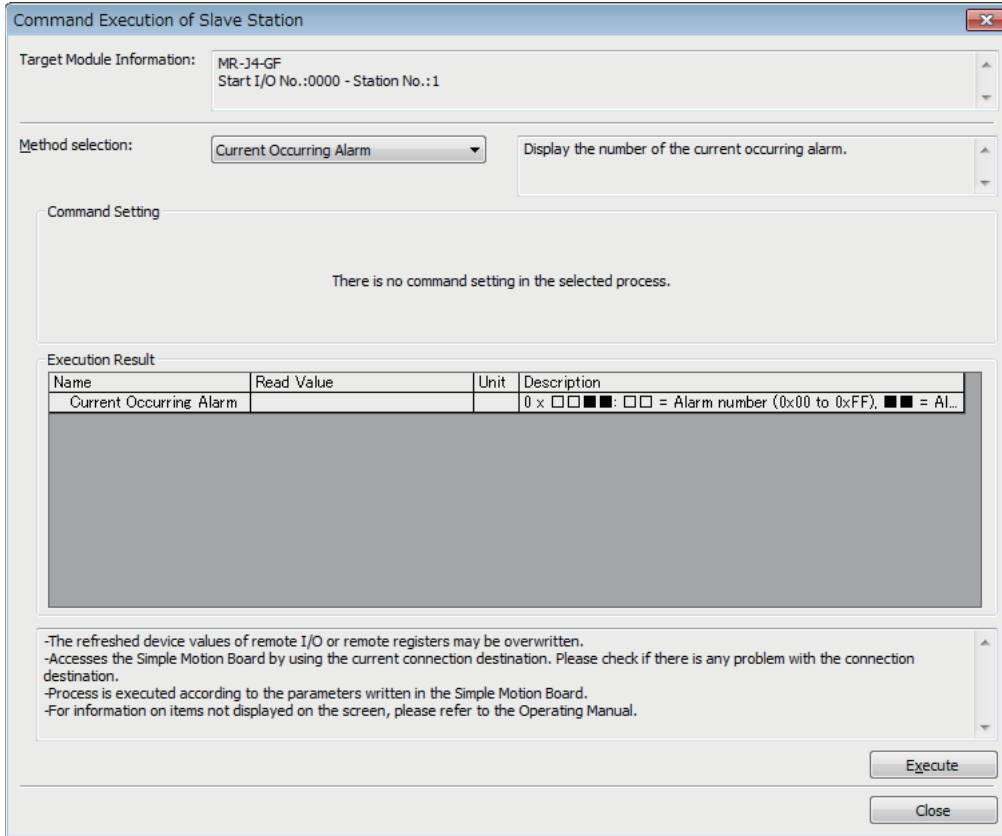
This function allows communications with other stations when a request is made by EM Configurator.

Communications within the same network

This function performs the transient transmission to other stations using EM Configurator.

Ex.

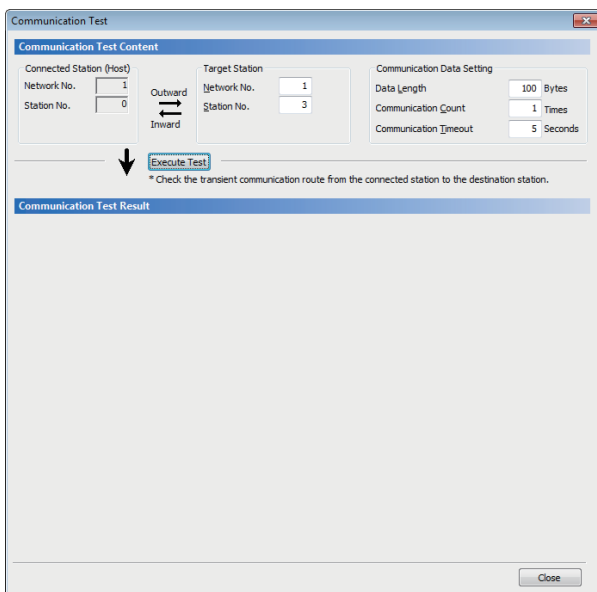
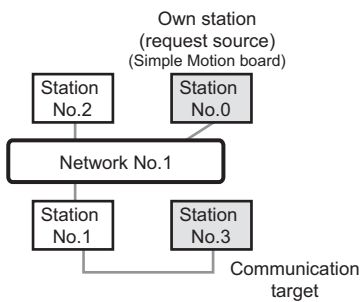
Executing [Command Execution of Slave Station] by EM Configurator



Communication test

Communication test checks if transient transmission data can be properly routed from the own station to the communication target.

Take the following system configuration as an example of communication test procedure.



1. Open the "Communication Test" window and enter values for "Target Station" and "Communication Data Setting".

[Diagnostics] ⇒ [CC-Link IE Field Diagnostics] ⇒ [Communication Test] button

2. Click the [Execute Test] button to execute the communication test. If an error occurs, take corrective actions according to the error message.

Restriction

When the software version of the Simple Motion board is "Ver.01":
Communication test cannot be used.

1.5 Interrupt Request to Host Personal Computer

This function checks interrupt conditions every operation cycle, and outputs an interrupt request to the host personal computer if the interrupt conditions are met.

Refer to the following for details.


 Simple Motion Board User's Manual (Application)

2 PARAMETER SETTINGS


This chapter describes the parameter settings required for communications between the Simple Motion board and other stations.

2.1 Setting Parameters

1. Create a project.


 [Project]⇒[New]⇒Select "MR-EM340GF" in "Board Name"⇒[OK] button

2. The system parameter, required settings, basic settings, and application settings are included in the network parameter. Select one of the settings from the tree on the window shown below.

 Navigation window⇒"System Setting"⇒"Network Parameter"


3. After setting parameters, click the [Close] button.

4. Write the settings to the Simple Motion board using EM Configurator.

 [Online]⇒[Write to Board]

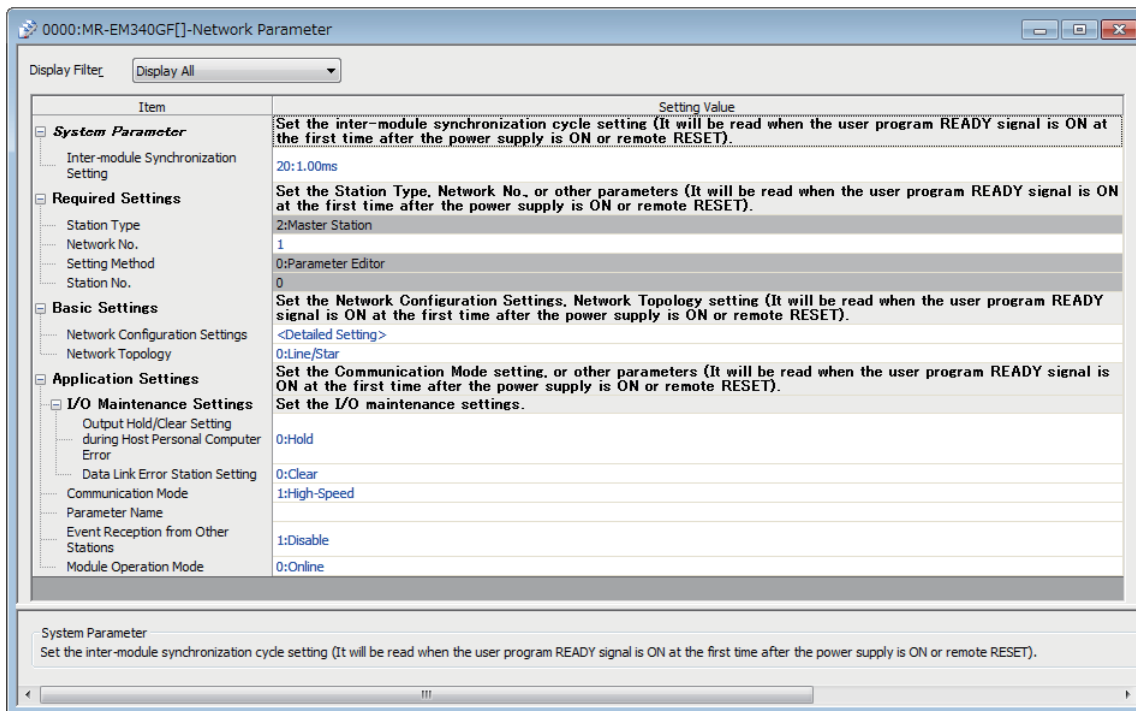
5. The settings are reflected by turning the user program READY signal [Y0] OFF→ON.

Point

- After the power supply of the Simple Motion board is turned OFF→ON or remote RESET is executed, the parameters are enabled at the leading edge (OFF→ON) of the user program READY signal [Y0] at the first time. If the user program READY signal [Y0] is turned OFF→ON even once, the parameters are not enabled.
 - Some of the parameters are enabled after the power supply of the Simple Motion board is turned OFF→ON or remote RESET is executed.
 - The parameters are initialized when the power supply of the Simple Motion board is turned OFF→ON or remote RESET is executed. To initialize the parameters set by EM Configurator, backup them to the flash ROM/internal memory (nonvolatile) of the Simple Motion board using execution data backup function. ( Simple Motion Board User's Manual (Application))
-

2.2 System Parameter

Set the inter-module synchronization cycle for the Simple Motion board.



Item	Description	Reference
Inter-module Synchronization Setting	Set the inter-module synchronization cycle for the Simple Motion board.	Page 29 Inter-module Synchronization Setting

Inter-module Synchronization Setting

Set the inter-module synchronization cycle for the Simple Motion board.

The inter-module synchronization function of the Simple Motion board can synchronize the Simple Motion board with the slave station connected to the CC-Link IE Field Network. The inter-module synchronization master (a module that sends the inter-module synchronization command) is the Simple Motion board.

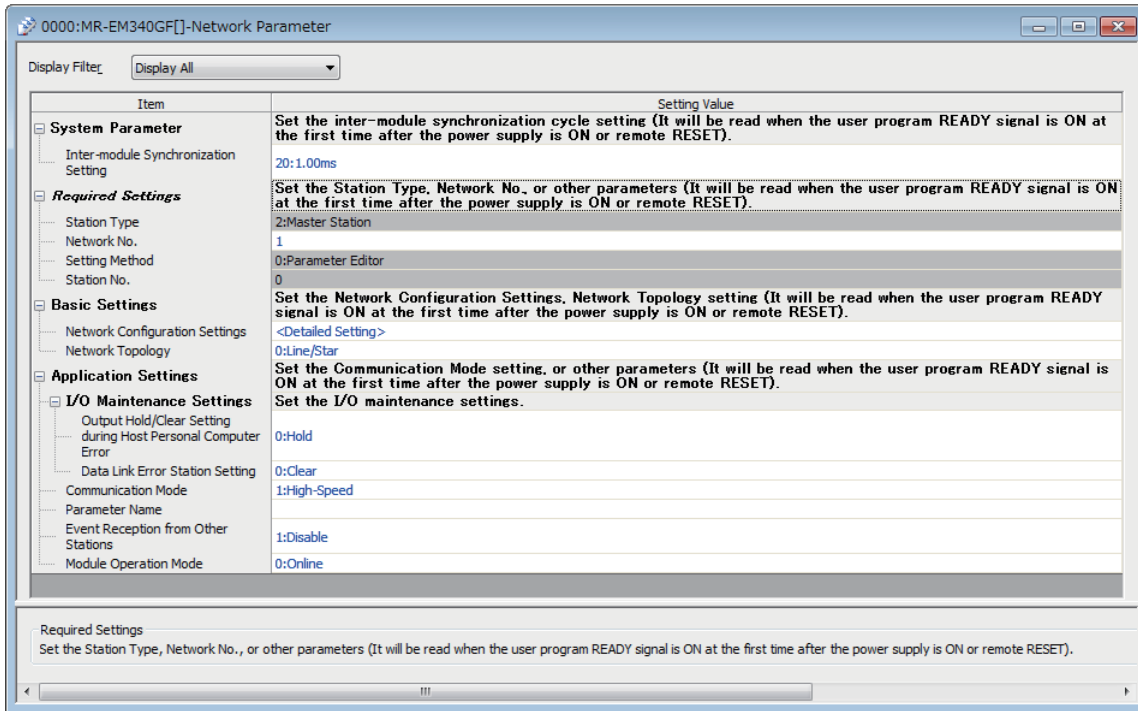
Item	Description	Setting range
Inter-module Synchronization Setting	Set the inter-module synchronization cycle. This parameter becomes valid after the power supply ON or remote RESET.	<ul style="list-style-type: none"> • 0.50 ms • 1.00 ms • 2.00 ms • 4.00 ms (Default: 1.00 ms)



When the multiple Simple Motion boards are installed to the host personal computer, the inter-module synchronization between the Simple Motion boards cannot be executed. Each Simple Motion board operates as the inter-module synchronization master independently.

2.3 Required Settings

Set the station type, network No., or other parameters for the Simple Motion board.



Item	Description	Reference
Station Type	Set the station type of the Simple Motion board.	Page 31 Station Type
Network No.	Set the network No. of the Simple Motion board.	Page 31 Network No.
Setting Method	Set the station No. setting method of the Simple Motion board.	Page 31 Setting Method
Station No.	Set the station No. of the Simple Motion board.	Page 31 Station No.

Station Type

Set the station type of the Simple Motion board.

Item	Description	Setting range
Station Type	Use the Simple Motion board as a master station. One master station can be set in a network.	—

2

Network No.

Set the network No. of the Simple Motion board.

Item	Description	Setting range
Network No.	Set the network No. of the Simple Motion board. This parameter becomes valid after the power supply ON or remote RESET.	1 to 239 (Default: 1)

Setting Method

Set the station No. setting method of the Simple Motion board.

Item	Description	Setting range
Setting Method	Set the station No. in EM Configurator or API library.	—

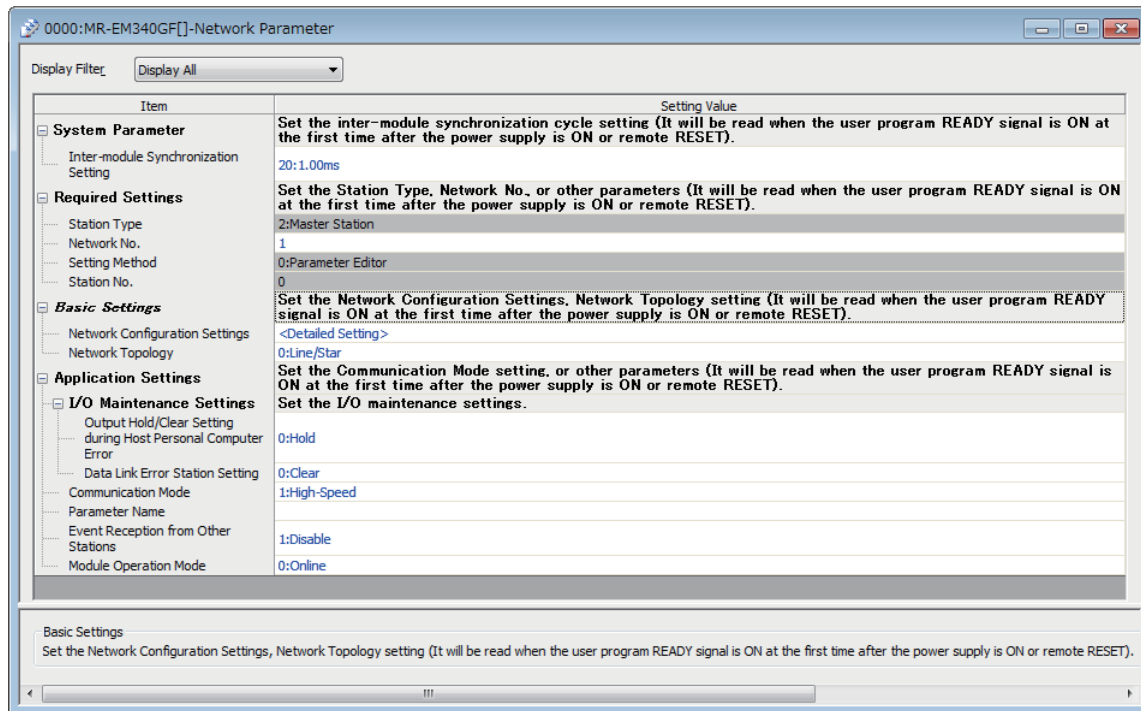
Station No.

Set the station No. of the Simple Motion board.

Item	Description	Setting range
Station No.	The station No. of the master station is fixed to "0".	—

2.4 Basic Settings

Set the network configuration or other parameters for the Simple Motion board.



Item	Description	Reference
Network Configuration Settings	Set parameters of slave stations (the number of points and assignment of link devices) in the master station.	Page 33 Network Configuration Settings
Network Topology	Select the topology type according to the actual network configuration.	Page 35 Network Topology

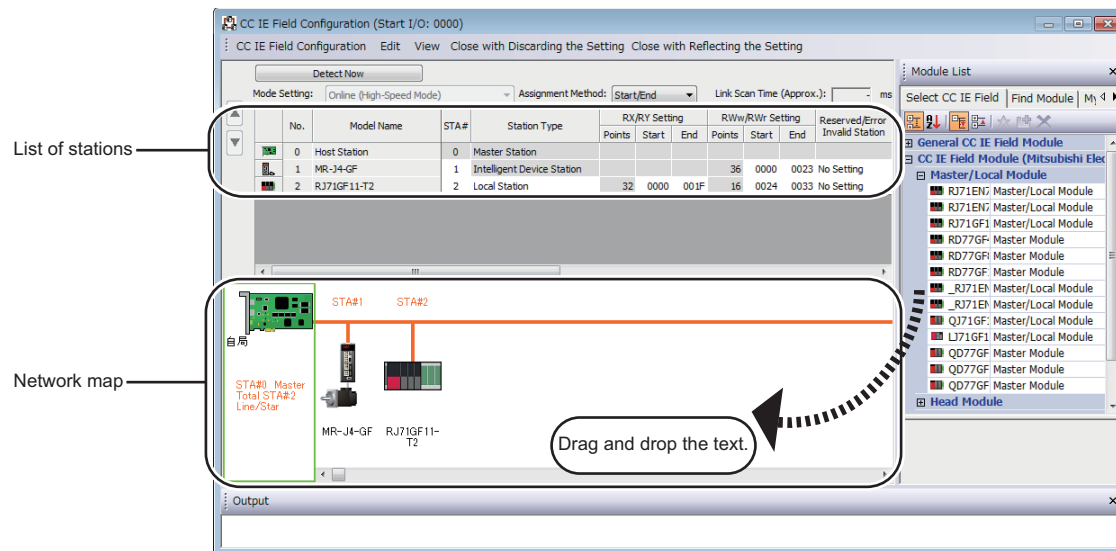
Network Configuration Settings

Set parameters of slave stations (the number of points and assignment of link devices) in the master station.

Setting procedure

The procedure for the network configuration settings is shown below.

1. Select the module in "Module List" and drag it to the list of stations or the network map.



2. Set the required items.
3. Select [Close with Discarding the Setting] and close Network Configuration Settings.

Setting items

Item	Description	Setting range
[Detect Now] button	Automatically reads the information of slave stations. For details, refer to the following. iQ Sensor Solution Reference Manual	—
Mode Setting	The mode of the master station is displayed.	—
Assignment Method	Select a link device assignment method. • Points/Start: Enter the points and start Nos. of link devices. • Start/End: Enter the start and end Nos. of link devices.	• Points/Start • Start/End (Default: Start/End)
Link Scan Time (Approx.)	The approximate link scan time is displayed.	—
No.	The total number of slave stations set in "Network Configuration Settings" is displayed.	—
Model Name	The module model name is displayed. To set a module where the profile is not registered, select it from the "General CC IE Field Module" list or register the profile before setting the model name. For how to register a profile is shown below. *1 [Tools]⇒[Profile Management]⇒[Register]	—
STA#	Enter the station No. of each slave station connected to the network. Station Nos. do not need to be set consecutively, but must be unique. The station No. of the master station is fixed at "0".	1 to 120 (Default: Blank)
Station Type	Select the station type (excluding the master station). Select the station type same as that of the modules connected to the network.	• Remote I/O Station • Remote Device Station • Intelligent Device Station • Local Station (Default: Varies depending on the set module)

Item	Description	Setting range
RX/Ry Setting	Assign RX/Ry points. (☞ Page 14 Data flow and link device assignment) Points can be assigned in increments of 16 (Start: ___0H, End: ___FH). To equally assign points or the same points, go to [Equal Assignment] or [Identical Point Assignment] on the [CC IE Field Configuration] menu.	Points • Master Station, Local Station, Intelligent Device Station: 16 to 2048 • Remote Device Station: 16 to 128 • Remote I/O Station: 16 to 64 Device No. • 0H to 3FFFH (Default: Varies depending on the set module)
RWw/RWr Setting	Assign RWw/RWr points in increments of 4. (☞ Page 14 Data flow and link device assignment) To equally assign points or the same points, go to [Equal Assignment] or [Identical Point Assignment] on the [CC IE Field Configuration] menu.	Points • Master Station, Local Station, Intelligent Device Station: 4 to 1024 • Remote Device Station: 4 to 64 • Remote I/O Station: Cannot be set. Device No. • 0H to 1FFFH (Default: Varies depending on the set module)
Reserved/Error Invalid Station	Set this item to reserve the slave station or to set the slave station as an error invalid station. • No Setting: The slave station is connected to the network. • Reserved Station: The slave station is reserved for future expansion. By reserving a slave station, link device assignment will not change even if the slave station is added or the reservation is cancelled. Therefore, the user program needs not to be modified. Physical connection of the slave station is not required. • Error Invalid Station: Even if a slave station is disconnected during data link, the master station will not detect the slave station as a faulty station.	• No Setting • Reserved Station • Error Invalid Station (Default: No Setting)
Network Synchronous Communication	Select whether to synchronize the slave station using the CC-Link IE Field Network synchronous communication function.	• Asynchronous • Synchronous (Default: Asynchronous)
Alias	This item cannot be set in the Simple Motion board.	All settings are invalid.
Comment		
Station-specific mode setting	Set the station-specific mode of the slave station. This setting is available only when the slave station supports the station-specific mode.	The setting varies depending on the set module.
Module List	The slave stations are listed. Drag the modules from "Module List" to the list of stations or the network map to set the information of the slave stations into the master station.	—


*1 Profile registration is available only for a user logging on to the personal computer with the administrator authority.

■Parameter processing of a slave station

 Select the module in the list of stations. ⇒ [CC IE Field Configuration] ⇒ [Online] ⇒ [Parameter Processing of Slave Station]

The parameters of a slave station can be set or read. This setting can be executed only when the slave station supports the parameter processing. The setting range varies depending on the target module. For details, refer to the manual for the slave station used.


■Command execution of a slave station

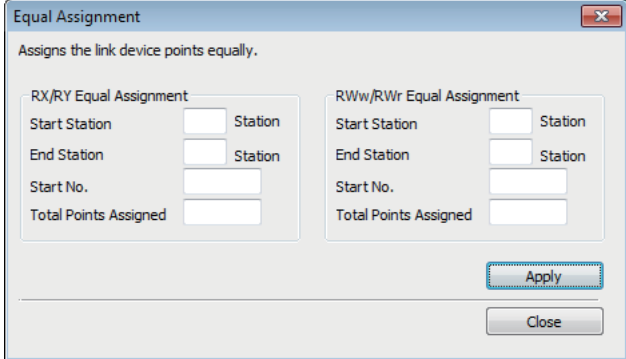
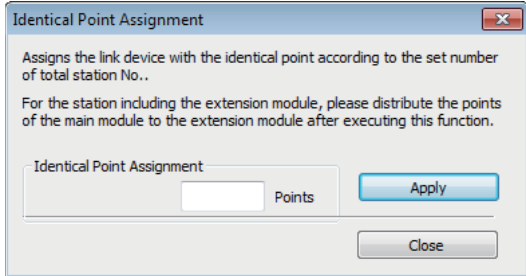
 Select the module in the list of stations. ⇒ [CC IE Field Configuration] ⇒ [Online] ⇒ [Command Execution of Slave Station]

The command of a slave station is executed. This setting can be executed only when the slave station supports the command execution. The setting range varies depending on the target module. For details, refer to the manual for the slave station used.

Equal assignment and identical point assignment of link points

Equal assignment and identical point assignment can be set in the following item.

 [CC IE Field Configuration] ⇒ [Equal Assignment] or [Identical Point Assignment]

Item	Description	Setting range
Equal Assignment	<p>Specify the start station and end station, and equally assign link devices to stations.</p>  <ul style="list-style-type: none"> • Start Station: Enter the start station No. of stations for which link devices are equally assigned. • End Station: Enter the end station No. of stations for which link devices are equally assigned. • Start No.: Enter the start No. of link devices to be equally assigned. • Total Points Assigned: Enter the total points of link devices to be equally assigned. 	<ul style="list-style-type: none"> • Start Station: 0 to the end station No. • End Station: No. set to "Start Station" to the end station No. • Start No.: Same values set in "RX/Ry Setting" and "RWw/RWr Setting" • Total Points Assigned: Same values set in "RX/Ry Setting" and "RWw/RWr Setting" (Default: Blank)
Identical Point Assignment	<p>Assign the same link device points to all stations.</p>  <ul style="list-style-type: none"> • Points entered in this field will be reflected to the "Points" of "RX/Ry Setting". • Half of the points entered in this field will be reflected to the "Points" of "RWw/RWr Setting". 	—

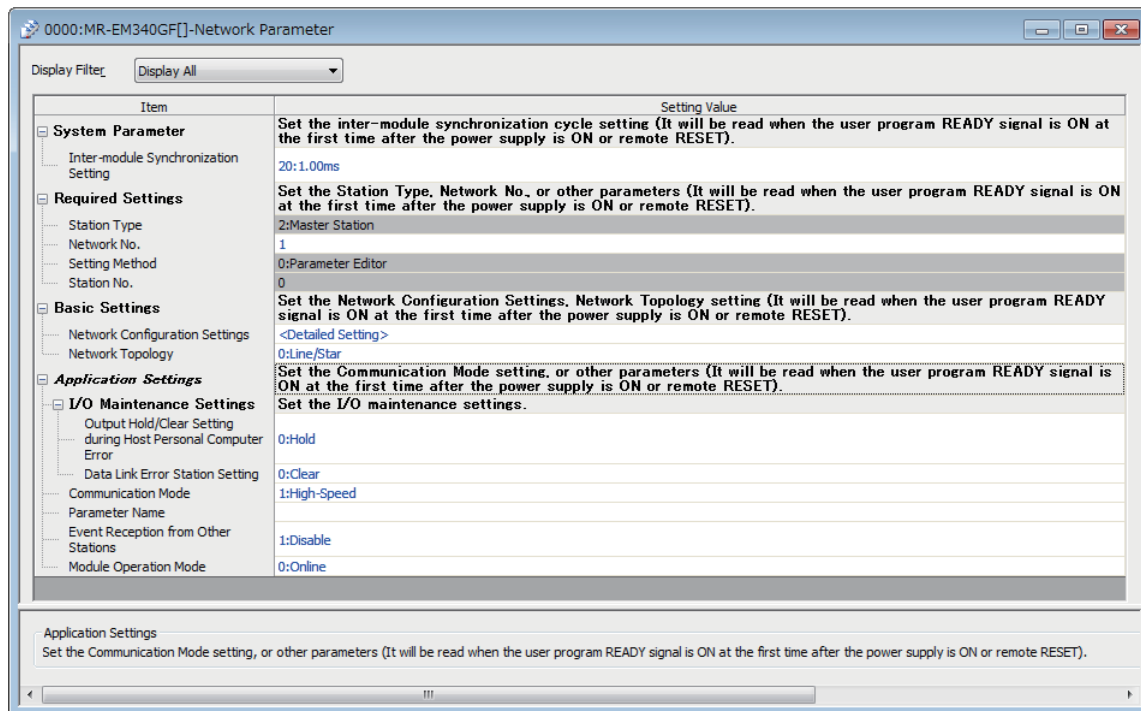
Network Topology

Select the topology type according to the actual network configuration.

Item	Description	Setting range
Network Topology	The topology type is fixed to "Line/Star".	—

2.5 Application Settings

Set the communication mode or other parameters for the Simple Motion board.



Item	Description	Reference
I/O Maintenance Settings	Set the I/O maintenance settings.	Page 37 I/O Maintenance Settings
Communication Mode	Set the communication mode of the own station.	Page 37 Communication Mode
Parameter Name	Set a name for the network parameter if desired.	Page 37 Parameter Name
Event Reception from Other Stations	Set the event history occurring in the other stations "Disable".	Page 37 Event Reception from Other Stations
Module Operation Mode	Set the mode of the Simple Motion board.	Page 37 Module Operation Mode

I/O Maintenance Settings

Set the I/O maintenance settings.

Item	Description	Setting range
Output Hold/Clear Setting during Host Personal Computer Error	Select whether cyclic data output is held or cleared when failure occurs in the host personal computer mounted with the Simple Motion board. (Page 24 Output status setting when failure occurs in the host personal computer)	<ul style="list-style-type: none"> • Hold • Clear (Default: Hold)
Data Link Error Station Setting	Select whether to hold or clear data input from the slave station where a data link error has occurred. (Page 23 Input status setting when data link failure occurs)	<ul style="list-style-type: none"> • Clear • Hold (Default: Clear)

Communication Mode

Set the communication mode of the own station. Set the communication mode to "High-Speed".

Item	Description	Setting range
Communication Mode	High-Speed <ul style="list-style-type: none"> • Cyclic transmission has a priority over transient transmission. This mode is suitable for applications requiring lower cycle times such as I/O control, analog control, and digital I/O. 	—

Restriction

- In "High-Speed" mode, the maximum number of points assigned to Rww/RWr is 256 points per local station.
- In "High-Speed" mode, the priority of transient transmission is low and its processing speed is slow.

Parameter Name

Set a name for the network parameter if desired.

Item	Description	Setting range
Parameter Name	Set a name for the network parameter if desired.	Up to 8 one-byte or two-byte characters (Default: Blank)

Event Reception from Other Stations

Set the event history occurring in the other stations "Disable".

Item	Description	Setting range
Event Reception from Other Stations	Disable <ul style="list-style-type: none"> • The event history occurring in the other stations is not obtained. 	—

Module Operation Mode

Set the mode of the Simple Motion board. Set the module operation mode "Online".

Item	Description	Setting range
Module Operation Mode	Online <ul style="list-style-type: none"> • Select this mode to connect the Simple Motion board to the network for performing data link with other stations. This parameter becomes valid after the power supply ON or remote RESET.	—

3 PROGRAMMING

This chapter describes programming and startup examples of CC-Link IE Field Network.

Cyclic transmission user program

For a cyclic transmission user program, interlock with the following labels.

- "Data link error status of own station" (SB0049)
- "Data link status of each station" (SW00B0 to SW00B7)

Program example

Interlock example

Classification	Label name	Description
Label	MMC_EM340GF::IEFieldInfo.bRX	R: RX area
	MMC_EM340GF::IEFieldInfo.bRY	RW: RY area
	MMC_EM340GF::IEFieldInfo.dwRX	R: RX area (for double word access)
	MMC_EM340GF::IEFieldInfo.dwRY	RW: RY area (for double word access)
	MMC_EM340GF::IEFieldInfo.wRWw	RW: RWw area
	MMC_EM340GF::IEFieldInfo.wRWr	R: RWr area
	MMC_EM340GF::IEFieldInfo.dwRWw	RW: RWw area (for double word access)
	MMC_EM340GF::IEFieldInfo.dwRWr	R: RWr area (for double word access)
	MMC_EM340GF::IEFieldInfo.SB	RW: SB area
	MMC_EM340GF::IEFieldInfo.SW	RW: SW area

C++

```
void LinkDeviceSample( MMC_Controller *controller )
{
    MMC_EM340IEFieldInfo *iefieldInfo = &((MMC_EM340GF *)controller)->IEFieldInfo;

    if( iefieldInfo->SB[0x0049] == MMC_OFF )
    /* Turn the data link error status of own station OFF */

    if( ( iefieldInfo->SW[0x00B0] & 0x0001 ) == MMC_OFF )
    /* Turn the data link status of each station (station No.1) OFF */

        unsigned short rx0;
        unsigned short rwr0;

        rx0 = iefieldInfo->bRX[0];          /* Get RX0          */
        iefieldInfo->bRY[0] = MMC_ON;      /* Turn RY0 ON     */

        rwr0 = iefieldInfo->wRWr[0];       /* Get RWr0        */
        iefieldInfo->wRWw[0] = 1;         /* Write 1 to RWw0 */
    }

    if( ( iefieldInfo->SW[0x00B0] & 0x0002 ) == MMC_OFF )
    /* Turn the data link status of each station (station No.2) OFF */

        unsigned long rx100_11F;
        unsigned long rwr100_101;

        rx100_11F = iefieldInfo->dwRX[8]; /* Get RX100-RX11F */
        iefieldInfo->dwRY[8] = 0xFFFFFFFF; /* Turn all of RY100-RY11F ON */

        rwr100_101 = iefieldInfo->dwRWr[128]; /* Get RWr100-RWr101 */
        iefieldInfo->dwRWw[128] = 1; /* Write 1 to RWw100-RWw101 */
    }
}
}
```


4 TROUBLESHOOTING

This chapter describes troubleshooting of CC-Link IE Field Network.

4.1 Checking with LED

This section describes troubleshooting using LED. The LED names described in this section are for display LEDs (CC-Link IE) and LEDs for CC-Link IE Field connector.

Error status can be determined by status of the RUN LED and the ERR LED.

RUN LED	ERR LED	Error status* ¹	Description
Off	On, flashing	Major error	An error such as hardware failure or memory failure. The module stops operating.
On	Flashing	Moderate error	An error, such as parameter error, which affect module operation. The module stops operating.
On	On	Minor error	An error such as communication failure. The module continues operating.

*1 When multiple errors occur, the error status is displayed in the order of major, moderate, and minor.

When the RUN LED turns off

When the RUN LED turns off after powering on the Simple Motion board, check the following.

Check item	Action
Is the Simple Motion board mounted correctly?	Securely mount the Simple Motion board to the host personal computer.

When the ERR LED turns on or is flashing

When the ERR LED turns on or is flashing, check the following.

Check item	Action
Does any error occur in the axis monitor?	Take the actions according to the detail display.
Is the disconnected station displayed in the CC-Link IE Field Network diagnostics? ^{*1} Or, is there any station not connected to the network in "Network connection status" (SW00B8 to SW00BF)?	<ul style="list-style-type: none">• Correct "Network Configuration Settings" in "Basic Settings" of the master station in accordance with the slave station actually connected.• Perform troubleshooting for when the D LINK LED turns off or is flashing. (Page 41 When the D LINK LED turns off or is flashing)

*1 This function can be used when the software version of the Simple Motion board is "Ver.02" or later.

If the above actions do not solve the problem, perform the following tests to check for an error.

- Cable test (Page 52 Cable test)

When the D LINK LED turns off or is flashing

When the D LINK LED turns off or is flashing, check the following.

Check item	Action
Is the master station operating normally?	Check if the master station is performing data link using CC-Link IE Field Network diagnostics. (☞ Page 43 Checking the Network Status)*1 It also can be checked using "Baton pass status of own station" (SB0047) and "Data link error status of own station" (SB0049).
Do the used Ethernet cables conform to the Ethernet standard?	Replace the cables with the Ethernet cable which conforms the standard. (☞ Simple Motion Board User's Manual (Startup))
Does the station-to-station distance meet the specifications?	Set the station-to-station distance within range. (☞ Simple Motion Board User's Manual (Startup))
Does the cabling condition (bending radius) meet the specifications?	Refer to the manual for the Ethernet cable, and correct the bending radius.
Is any Ethernet cable disconnected?	Replace the Ethernet cable.
Are 121 or more slave stations connected?	Change the connection of the slave stations to 120 stations or less.
Are other stations connected to the Simple Motion board operating normally?	<ul style="list-style-type: none"> • Check if the modules on the other stations are performing data link using CC-Link IE Field Network diagnostics. (☞ Page 43 Checking the Network Status)*1 It also can be checked using "Baton pass status of each station" (SW00A0 to SW00A7) and "Data link status of each station" (SW00B0 to SW00B7). • Check the operation status of modules on other stations. (☞ User's manual for the module used)
Is the switching hub used operating normally?	<ul style="list-style-type: none"> • Check if the switching hub which conforms the standard is used. (☞ Simple Motion Board User's Manual (Startup)) • Power off and on the switching hub.
Are station Nos. unique?	Change the duplicated station No.

*1 This function can be used when the software version of the Simple Motion board is "Ver.02" or later.

If the above actions do not solve the problem, perform the following tests to check for an error.

- Cable test (☞ Page 52 Cable test)

When the L.ERR LED turns on

When the L.ERR LED turns on, check the following.

Check item	Action
Are the Ethernet cables used normally?	<ul style="list-style-type: none"> • Check if the Ethernet cable which conforms the standard is used. (☞ Simple Motion Board User's Manual (Startup)) • Check if the station-to-station distance is set within range. (☞ Simple Motion Board User's Manual (Startup)) • Check if the Ethernet cables are not disconnected.
Is the switching hub used operating normally?	<ul style="list-style-type: none"> • Check if the switching hub which conforms the standard is used. (☞ Simple Motion Board User's Manual (Startup)) • Power off and on the switching hub.
Are other stations connected to the Simple Motion board operating normally?	<ul style="list-style-type: none"> • Check if the modules on the other stations are performing data link using CC-Link IE Field Network diagnostics. (☞ Page 43 Checking the Network Status)*1 It also can be checked using "Baton pass status of each station" (SW00A0 to SW00A7) and "Data link status of each station" (SW00B0 to SW00B7). • Check the operation status of modules on other stations. (☞ User's manual for the module used)
Is there any source of noise near the module or cables?	Change the location of the module or cables.

If the above actions do not solve the problem, perform troubleshooting for when communication is unstable. (☞ Page 61

When communication is unstable)

*1 This function can be used when the software version of the Simple Motion board is "Ver.02" or later.

When the L.ER LED turns on

When the L.ER LED turns on, check the following.

Check item	Action
Are the Ethernet cables used normally?	<ul style="list-style-type: none"> • Check if the Ethernet cable which conforms the standard is used. (Simple Motion Board User's Manual (Startup)) • Check if the station-to-station distance is set within range. (Simple Motion Board User's Manual (Startup)) • Check if the Ethernet cables are not disconnected.
Is the switching hub used operating normally?	<ul style="list-style-type: none"> • Check if the switching hub which conforms the standard is used. (Simple Motion Board User's Manual (Startup)) • Power off and on the switching hub.
Is there any source of noise near the module or cables?	Change the location of the module or cables.

If the above actions do not solve the problem, perform the following tests to check for an error.

- Troubleshooting for when communication is unstable (Page 61 When communication is unstable)

When the LINK LED turns off

When the LINK LED turns off, check the following.

Check item	Action
Do the used Ethernet cables conform to the Ethernet standard?	Replace the cables with the Ethernet cable which conforms the standard. (Simple Motion Board User's Manual (Startup))
Does the station-to-station distance meet the specifications?	Set the station-to-station distance within range. (Simple Motion Board User's Manual (Startup))
Does the cabling condition (bending radius) meet the specifications?	Refer to the manual for the Ethernet cable, and correct the bending radius.
Is any Ethernet cable disconnected?	Replace the Ethernet cable.
Is the switching hub used operating normally?	<ul style="list-style-type: none"> • Check if the switching hub which conforms the standard is used. (Simple Motion Board User's Manual (Startup)) • Power off and on the switching hub.
Are other stations connected to the Simple Motion board operating normally?	<ul style="list-style-type: none"> • Check if the modules on the other stations are performing data link using CC-Link IE Field Network diagnostics. (Page 43 Checking the Network Status)*1 It also can be checked using "Baton pass status of each station" (SW00A0 to SW00A7) and "Data link status of each station" (SW00B0 to SW00B7). • Check the operation status of modules on other stations. (User's manual for the module used)

*1 This function can be used when the software version of the Simple Motion board is "Ver.02" or later.

If the above actions do not solve the problem, perform the following tests to check for an error.

- Cable test (Page 52 Cable test)

4.2 Checking the Network Status

Perform the CC-Link IE Field Network diagnostics to check the network status and error details or to perform an operation test for troubleshooting.



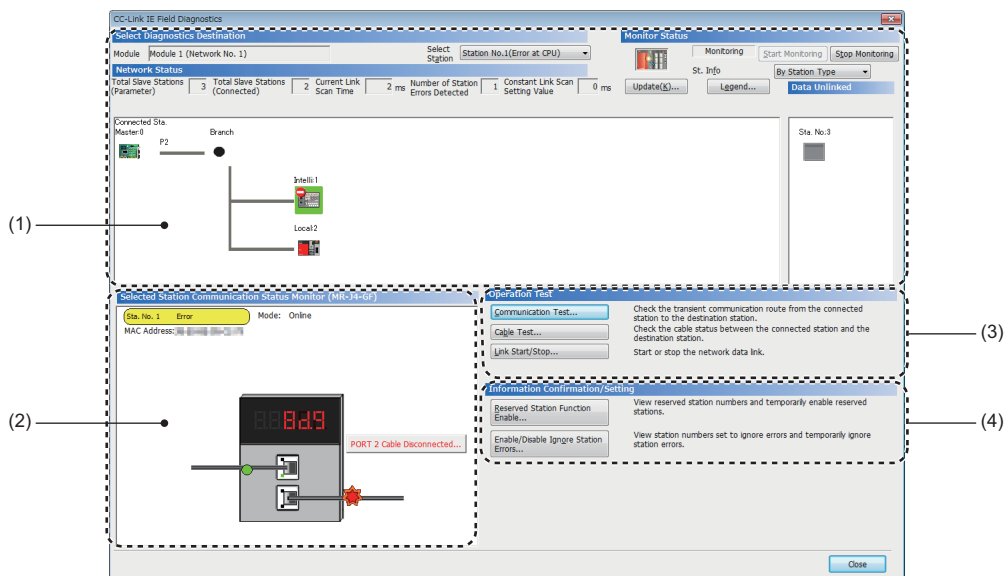
When the software version of the Simple Motion board is "Ver.01":
The CC-Link IE Field Network diagnostics cannot be used.

Diagnostic items

The following table lists items that can be diagnosed by the CC-Link IE Field Network diagnostics.



Some items are not supported depending on the slave station.



○: Diagnosed

Item	EM Configurator is connected to:	Restrictions		Reference
		Master station		
(1) Network map and error status	○	—	—	Page 46 Diagnostics window
	○	—	—	
(2) Status of the selected station and the error definition	○	—	This item is not displayed when the selected module does not support "Selected Station Communication Status Monitor" of EM Configurator.	
	○	—	—	
(3) Communication Test	○	—	—	Page 26 Communication test
	○	—	—	Page 52 Cable test
	○	—	—	Page 53 Link Start/Stop
(4) Reserved Station Function Enable	○	—	—	Page 55 Reserved Station Function Enable
	○	—	—	Page 57 Enable/Disable Ignore Station Errors

Starting diagnostics

This section describes how to use the CC-Link IE Field Network diagnostics.

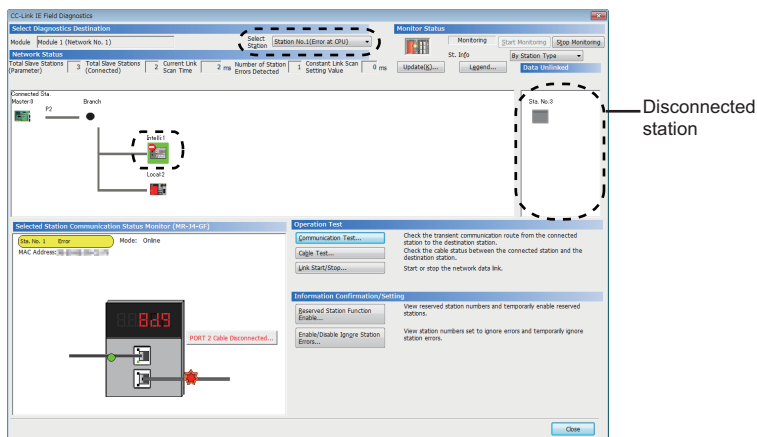
1. Connect EM Configurator to the Simple Motion board.

If a slave station cannot be monitored due to an error such as cable disconnection, directly connect the supported engineering tool to the slave station.

2. Start the CC-Link IE Field Network diagnostics.

[Diagnostics] ⇒ [CC-Link IE Field Diagnostics]

3. Select the station to be diagnosed from "Select Station" or in "Network Status".



- An icon indicating an error is displayed on the module icon of the station where an error occurs.
- A disconnected station that has performed data link is indicated with the "Disconnected Station" icon in the network map. However, a disconnected station in following case is displayed on the right end of the area.

Stations displayed on the right end of the area

- A station that was reconnected to a network after disconnecting/inserting the cable or powering off and on the system, and remains disconnected
 - A disconnected station with the station icon deleted in the network map by clicking the [Update] button
- The "Error" icon is displayed on the icon of a cable where a communication error occurs. To check the details of the communication error, click the neighboring stations of the "Error" icon.

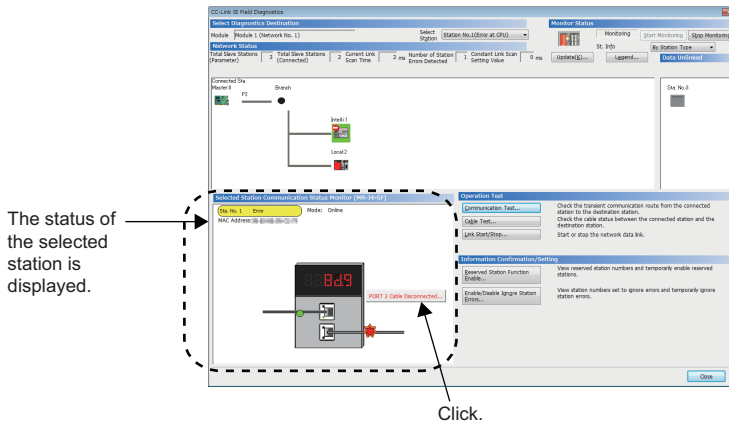
Point

When the station to be diagnosed cannot be selected, the status of network No. disparity, master station duplication, or station No. duplication cannot be checked using the CC-Link IE Field Network diagnostics. Check the error details by directly connecting the supported engineering tool to the slave station where an error occurs, and opening the "System Monitor" window.

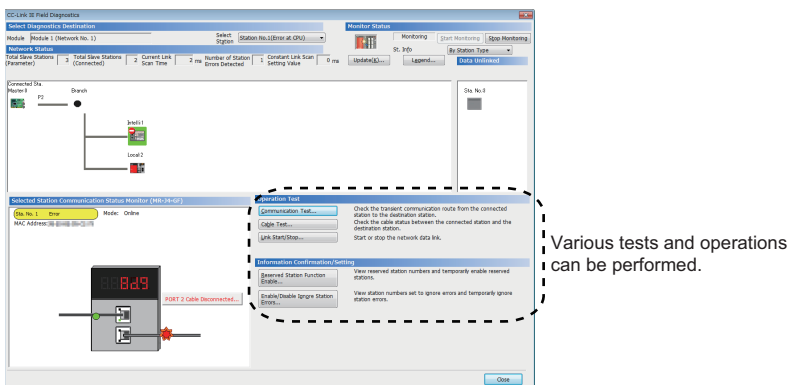
4. The status of a station selected in "Network Status" is displayed in "Selected Station Communication Status Monitor". (👉 Page 46 Diagnostics window)

The station status is displayed on the top of "Selected Station Communication Status Monitor".

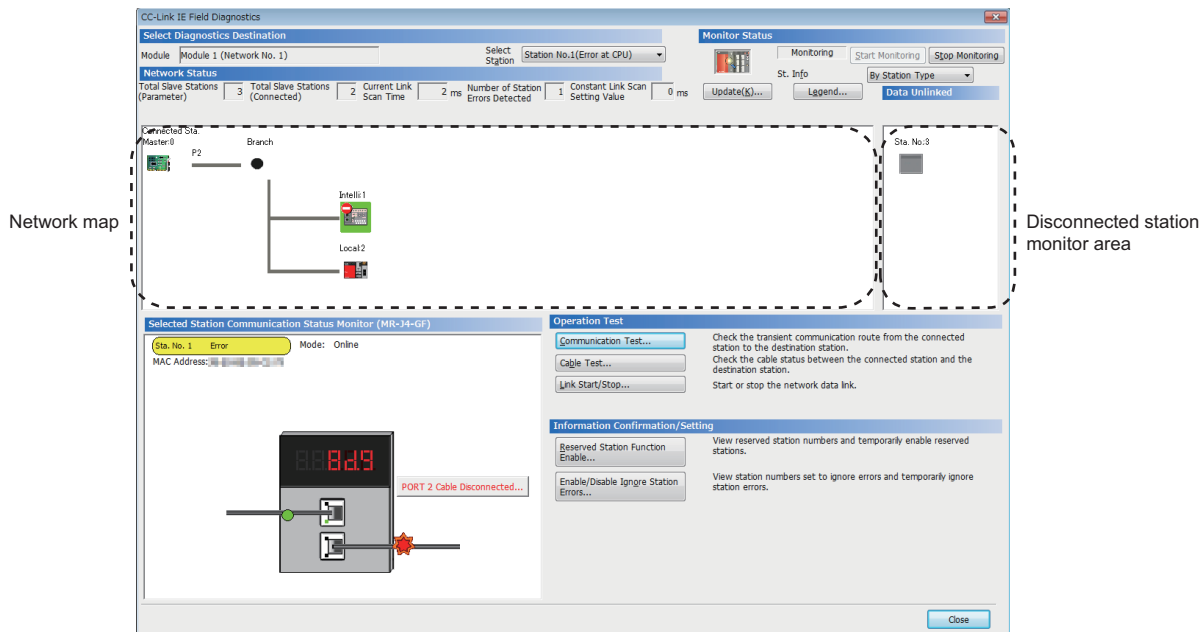
If an error occurs, a button indicating the error such as [PORT2 Communication Error] is displayed in "Selected Station Communication Status Monitor". Click the button to check the error details and actions.




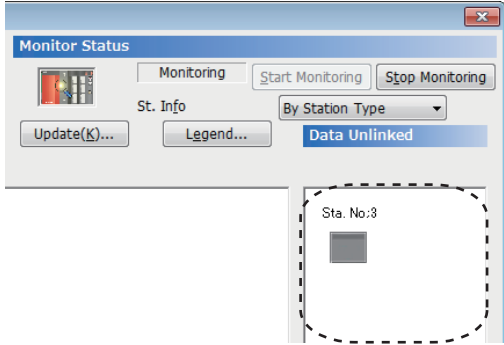






5. Various tests and operations can be performed by clicking the "Operation Test", "Information Confirmation/Setting", or "Selected Station Operation" on the bottom left of the window. (👉 Page 53 Link Start/Stop to Page 57 Enable/Disable Ignore Station Errors)



Diagnostics window



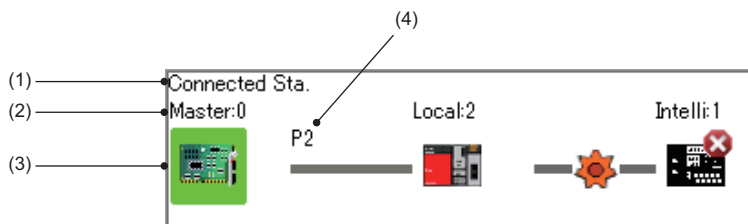
Item		Description
Select Diagnostics Destination	Module	Displays the Simple Motion board being diagnosed.
	Selected Station	Selects the station No. of the station to be diagnosed. A station to be diagnosed can also be selected by clicking the module icon displayed in the network map.
Monitor Status	[Start Monitoring] button	Starts monitoring of the CC-Link IE Field Network diagnostics.
	[Stop Monitoring] button	Stops monitoring of the CC-Link IE Field Network diagnostics.
[Update] button		Executes the network map update to match them if the actual network configuration and network map of the diagnostic window are inconsistent. A data link error may momentarily occur in all the stations and outputs of the connected slave stations may turn off since all stations on the network will be reconnected when executing the network map update. Set output data if needed. (Page 37 I/O Maintenance Settings)
[Legend] button		Displays the meaning of icons displayed in the CC-Link IE Field Network diagnostics.
St. Info		The display name of the slave station can be selected from "By Device Name" and "By Station Type". When "By Device Name" is selected, the information entered in "Alias" of "Network Configuration Settings" under "Basic Settings" is displayed. When selecting "By Device Name", pay attention to the following. <ul style="list-style-type: none"> When "Alias" is not entered in "Network Configuration Settings" under "Basic Settings", the station type is displayed.

Item		Description
Network Status	Total Slave Stations (Parameter)	Displays the total number of slave stations set in "Network Configuration Settings" of "Basic Settings".
	Total Slave Stations (Connected)	Displays the total number of slave stations actually performing baton pass on CC-Link IE Field Network.
	Current Link Scan Time	Displays the link scan time of the displayed network.
	Number of Station Errors Detected	Displays the number of error stations in the displayed network.
	Network map	Displays the network map and the status of each station. If the status is not displayed, check that there is only one master station in the system and no station No. is overlapped. For details on the network map, refer to the following.  Page 48 Network map
	Disconnected station monitor area	<p>Displays a disconnected station that has been set in "Network Configuration Settings" of "Basic Settings" but has not yet performed data link.</p> <p>However, even if a disconnected station had performed data link, it is displayed in this area in the following cases.</p> <ul style="list-style-type: none"> • A station that was reconnected to a network after disconnecting/inserting the cable or powering off and on the system, and remains disconnected. • A disconnected station with the station icon deleted in the network map by clicking the [Update] button  <p>The "Other Modules" icon indicates a station that has not yet performed data link. Icons other than "Other Modules" icon indicate stations that had performed data link before disconnection. For details on the displayed icon, click the [Legend] button.</p>
Selected Station Communication Status Monitor		Displays status of the station selected in "Network Status". For details on "Selected Station Communication Status Monitor", refer to the following.  Page 50 Selected Station Communication Status Monitor
Operation Test	[Communication Test] button	Performs a communication test. ( Page 26 Communication test)
	[Cable Test] button	Performs a cable test. ( Page 52 Cable test)
	[Link Start/Stop] button	Starts or stops cyclic transmission. ( Page 53 Link Start/Stop)
Information Confirmation/ Setting	[Reserved Station Function Enable] button	Temporarily cancels a reservation for a slave station or reserves the slave station again. ( Page 55 Reserved Station Function Enable)
	[Enable/Disable Ignore Station Errors] button	Sets a slave station as a temporary error invalid station. ( Page 57 Enable/Disable Ignore Station Errors)

Network map

Icon

The module type and station No. are displayed with an icon.



- Click: Selection
- Right-click: Test or debug execution.
- [F1] [F2] [F3] [F4] keys on the keyboard: Move the focus to the module to be diagnosed, and determine it with the [Space] key.

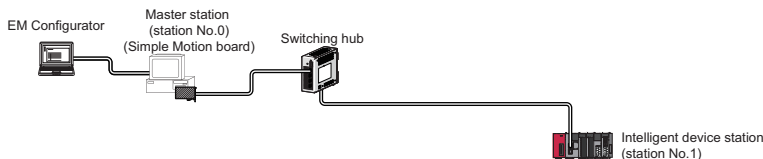
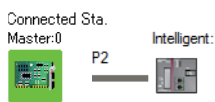
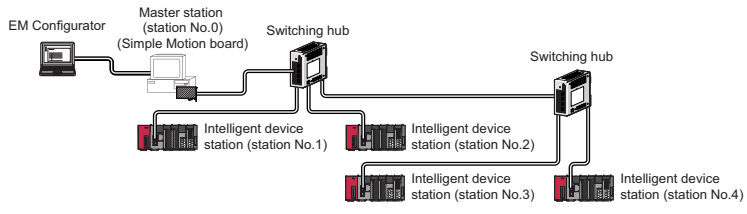

No.	Description
(1)	Indicates the station (own station) where EM Configurator is connected.
(2)	Displays the network type and station No. "?" is displayed when a station No. has not been set. When the background of the text is colored, the relevant station may have been set as a reserved station or an error invalid station. Click the [Legend] button to check the meaning of the background colors.
(3)	Displays module status. Click the [Legend] button to check the meaning of the icon. When the "Error (Illegal ring connection detected/Execute loopback)" icon is displayed, take actions displayed in "Troubleshooting" of "Error Details". (Page 50 When a station where an error has occurred is selected)
(4)	Displays a port to which an Ethernet cable is connected.

Network map

A network map is displayed according to the connection status.

System configuration	Display of the network map
<p>Star topology</p>	
<p>Line topology</p>	
<p>Star and line mixed</p>	

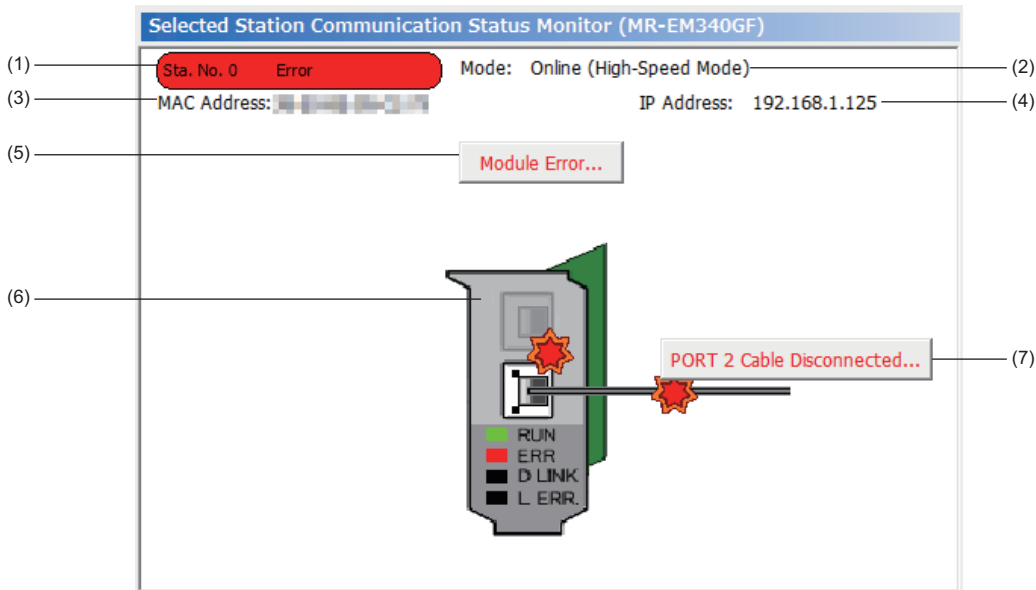
In the following cases, the network map that is different from the actual system configuration is displayed.

System configuration	Display of the network map
<p>Two stations are connected through a switching hub.</p> 	<p>Branches are not displayed in the network map.</p> <p>Connected Sta. Master:0</p> 
<p>Switching hubs are in cascade connection.</p> 	<p>Only one branch is displayed.</p> <p>Connected Sta. Master:0</p> 

Selected Station Communication Status Monitor

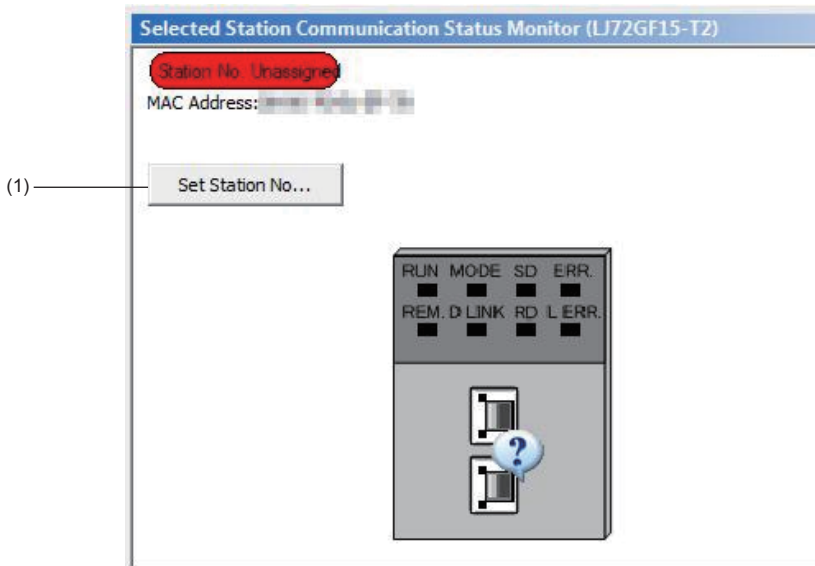
Displays status of the station selected in "Network Status".

■When a station where an error has occurred is selected



No.	Description
(1)	Indicates the operating status. <ul style="list-style-type: none"> • Station No._: Normal operation • Station No._ Error (yellow): Error (Data link is continued.) • Station No._ Error (red): Error (Data link is stopped.)
(2)	Displays a mode.
(3)	Displays a MAC address.
(4)	Displays an IP address (only when it is set).
(5)	Click this button to check error details. Take actions following the description displayed in "Error Factor" and "Troubleshooting".
(6)	Displays the LED status of a module and communication status. (Simple Motion Board User's Manual (Startup))
(7)	Displays status of the cables connected.

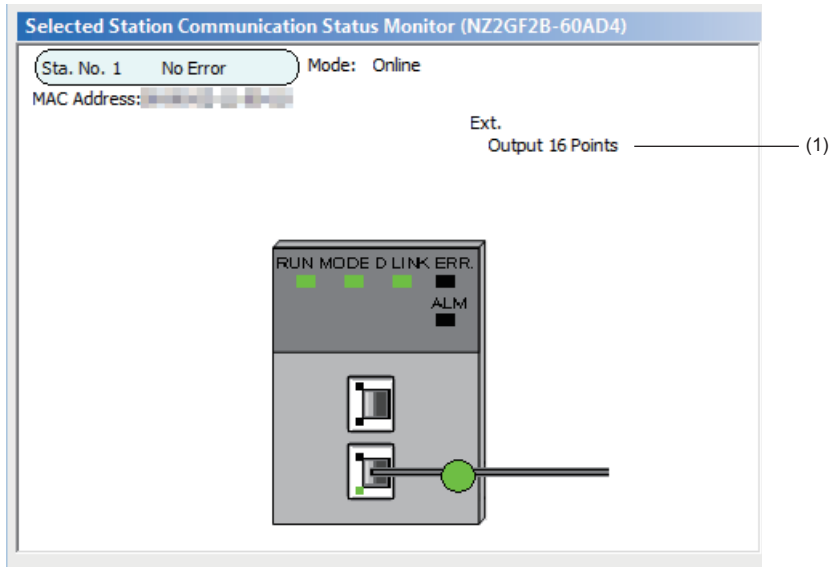
■When a station with no network No. nor station No. setting is selected



No.	Description
(1)	<p>Sets a station No. for a slave station to which a station No. has not been set. This button is displayed only when a slave station meeting all the following conditions has been selected in "Network Status".</p> <ul style="list-style-type: none"> • The slave station supports station No. setting from the master station. • A station No. has not been set to the slave station.*1 <p>When a station set in "Network Configuration Settings" of "Basic Settings" is added, the external device connected to the slave station outputs data input from the master station, simultaneously with configuration of the station No. setting. Therefore, check that outputs from the external device will not cause a problem beforehand.</p>

*1 For how to clear the station No. set for a slave station in the CC-Link IE Field Network diagnostics, refer to the manuals for modules used on slave stations.

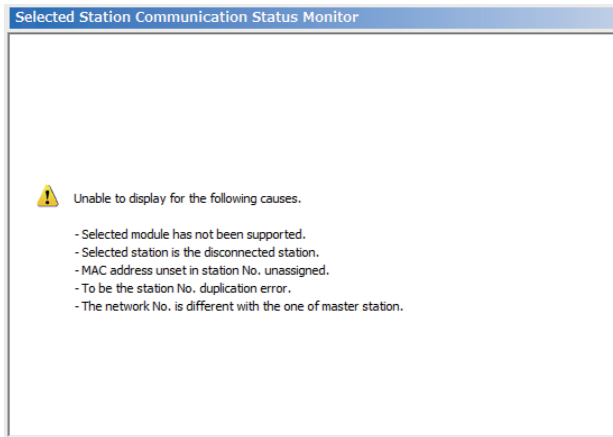
■When a remote device station is selected



No.	Description
(1)	Displays the information of the extension module connected to the remote device station.

■When the module that is not supported is connected

When the module that is not supported such as servo amplifier is connected, the status of the station is not displayed.

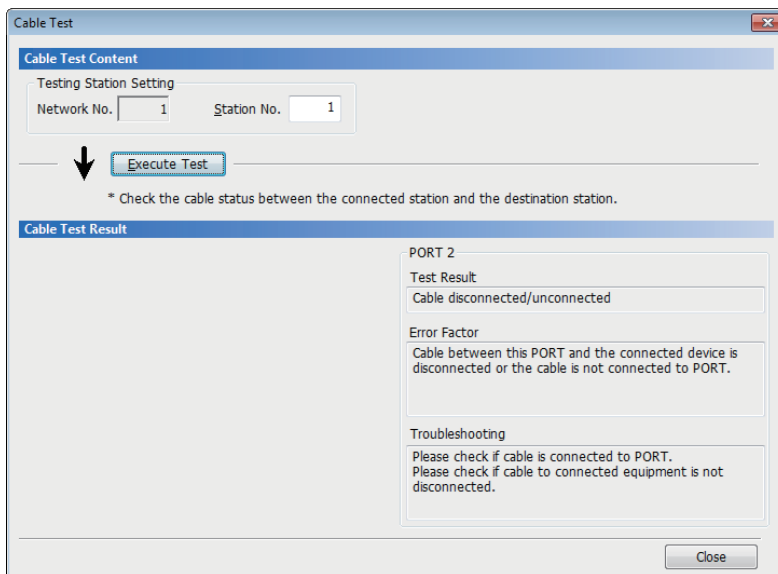


Cable test

Cable test checks if the Ethernet cables are properly connected.

Only the Ethernet cable connected to the P2 of the target station is tested. For the whole network status, check the network map or "Selected Station Communication Status Monitor" of the CC-Link IE Field Network diagnostics. (Page 43 Checking the Network Status)

■Procedure



1. Click the [Cable Test] button in the "CC-Link IE Field Diagnostics" window.

"Cable Test" window is displayed.

2. Enter a station No. and click the [Execute Test] button to operate the test.

If an error occurs, take actions according to the error message.

Restriction

When the software version of the Simple Motion board is "Ver.01":
Cable test cannot be executed.

Link Start/Stop

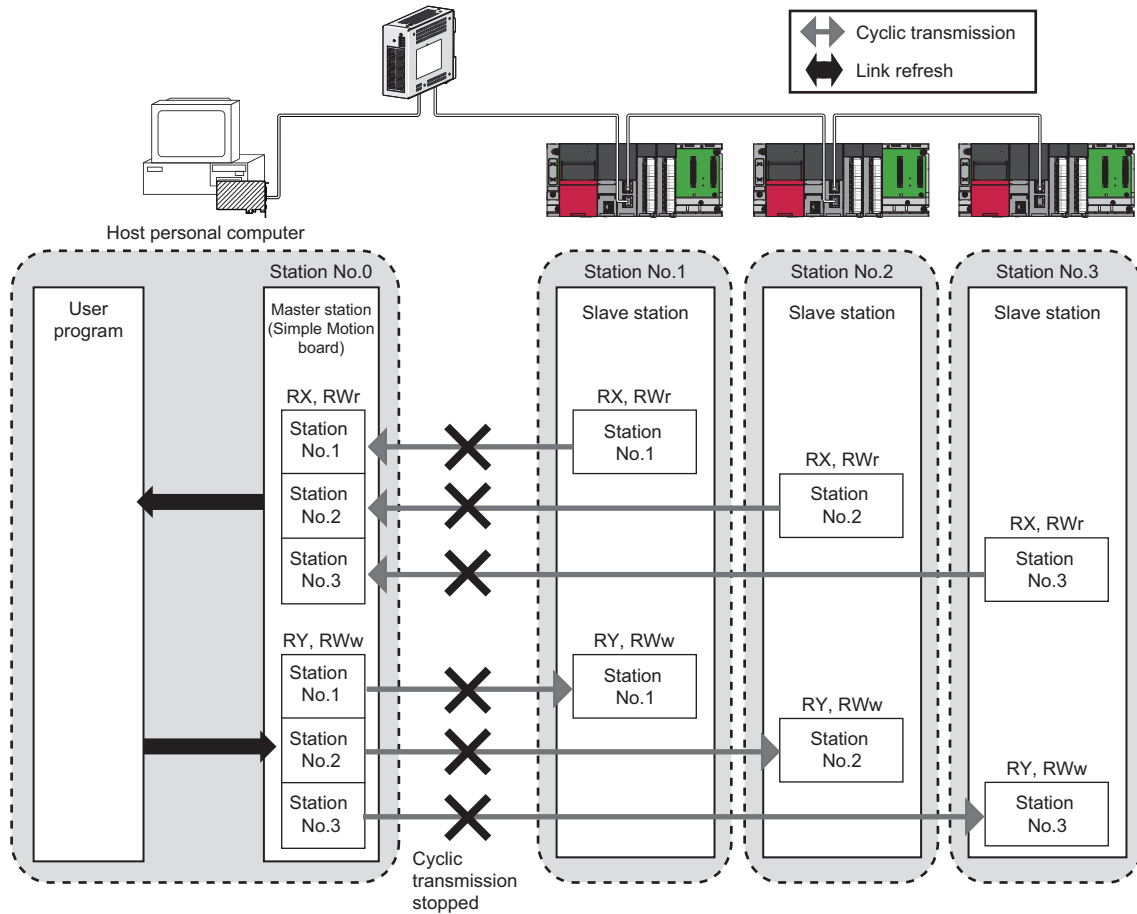
This function stops the cyclic transmission during debugging and other operations. (Data reception from a slave station and data sending from the own station are stopped.)

Also, the stopped cyclic transmission is restarted. This function does not stop or restart transient transmission.

This function can stop and restart the cyclic transmission of an asynchronous communication device. It cannot stop or restart the cyclic transmission of a synchronous communication device. When link start/stop is executed for the synchronous communication device and the Simple Motion board, an error might occur in the slave station.

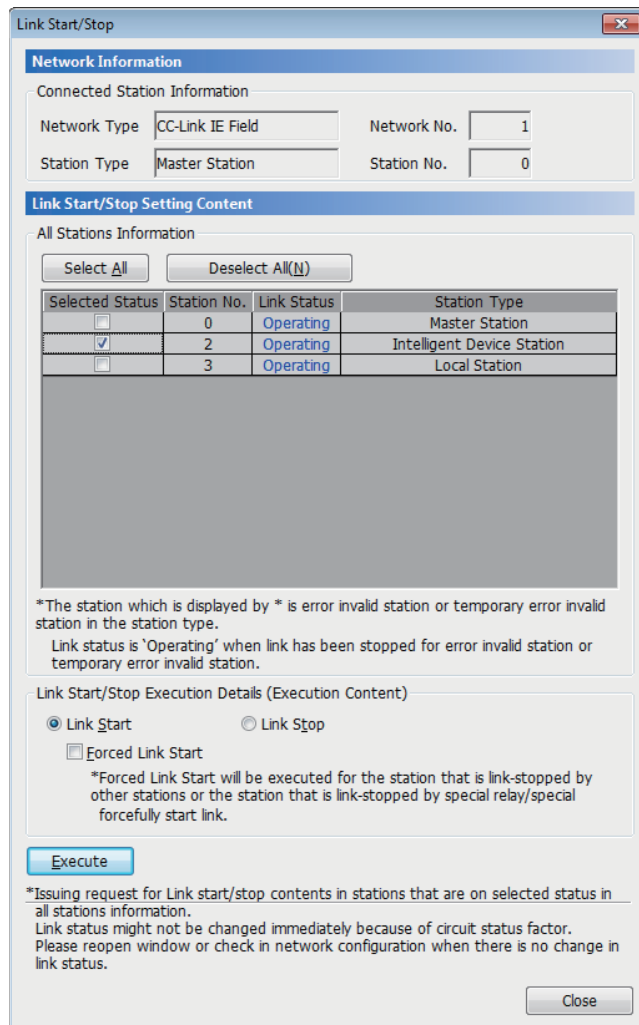
Point

Cyclic transmission can be started and stopped using link special relay (SB) and link special register (SW).
 (☞ Page 76 List of Link Special Relay (SB), Page 83 List of Link Special Register (SW))



■ Procedure

The execution status of cyclic transmission can be checked in "Link Status".



1. Click the [Link Start/Stop] button in the "CC-Link IE Field Diagnostics" window. Or right-click a module icon in "Network Status" and click [Link Start/Stop].

"Link Start/Stop" window is displayed.

2. Select a station for starting or stopping cyclic transmission in "Selected Status".

When EM Configurator is connected to a local station, only the own station can be selected. The station to which EM Configurator is connected can be checked in "Connected Station Information".

3. Select whether to start or stop cyclic transmission in "Link Start/Stop".

Selecting "Forced Link Start" will forcibly start cyclic transmission of the station where cyclic transmission was stopped by a command from another station or by link special relay (SB) or link special register (SW).

4. Click the [Execute] button.

■ When the Simple Motion board is remote RESET or the system is powered off and on

Even if cyclic transmission has been stopped by this function, it will restart.

■ When the link stop is executed to an error invalid station or temporary error invalid station

Note that the station is displayed as a station during data link in the CC-Link IE Field Network diagnostics window even after data link has been stopped. Check the data link status in "Data link error status of own station" (SB0049).

■ Stations to which the link start cannot be executed

The link start cannot be executed to the following stations.

- Station where cyclic transmission was stopped due to an error
- Station where link was stopped by a command from another station^{*1}
- Station where link was stopped by link special relay (SB) or link special register (SW)^{*1}

*1 Selecting "Forced Link Start" will start the link.

Reserved Station Function Enable

This function temporarily cancels a reservation for a slave station. Use this function to cancel the reservation of a slave station it is connected to the network.

Or use to set it as a reserved station again.

This function can temporarily cancel a reserved station of an asynchronous communication device. It cannot temporarily cancel a reserved station of a synchronous communication device. When temporarily cancel of a reserved station is executed for the synchronous communication device, an error might occur in the slave station.

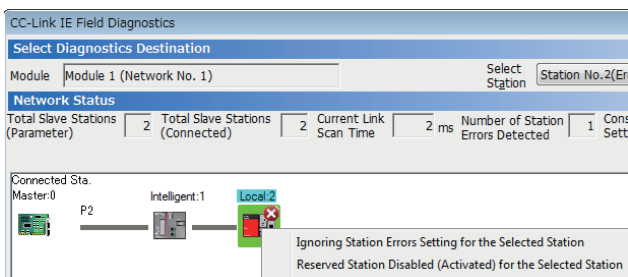
Point

The reserved station setting can also be temporarily disabled/enabled using link special relay (SB) and link special register (SW) of the master station. (☞ Page 76 List of Link Special Relay (SB), Page 83 List of Link Special Register (SW))

4

■Selecting the target module in "Network Status"

To temporarily cancel a reservation, follow the steps below.

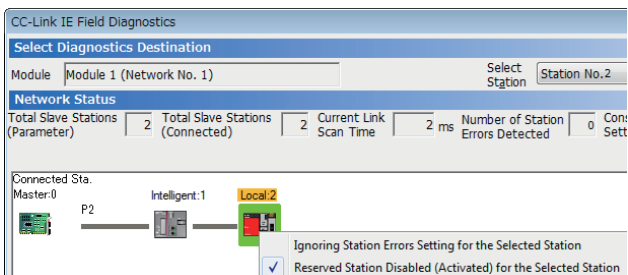


1. Connect a slave station specified as a reserved station to the network.
2. In "Network Status" of the "CC-Link IE Field Diagnostics" window, right-click the icon of the station for which reservation is to be cancelled, and click "Reserved Station Disabled (Activated) for the Selected Station".

The text background turns orange. The reservation for the slave station is temporarily cancelled.

3. Debug the slave station that has been added.

To reserve the slave station again, follow the steps below.



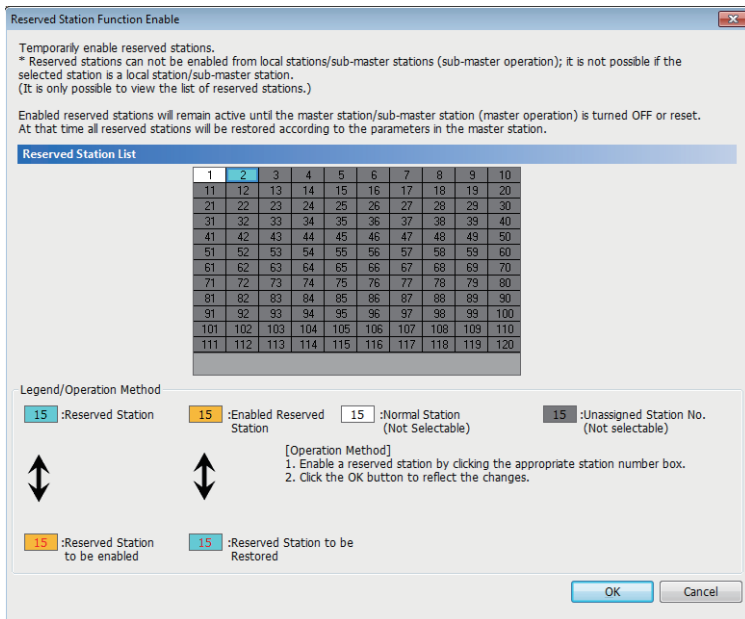
1. In "Network Status" of the "CC-Link IE Field Diagnostics" window, right-click the icon of the station to be reserved again, and click "Reserved Station Disabled (Activated) for the Selected Station".

The text background turns light blue. The slave station is reserved again.

■ Selecting the target module in the "Reserved Station Function Enable" window

Reservation of multiple slave stations can be temporarily cancelled through the "Reserved Station Function Enable" window all at once.

To temporarily cancel a reservation, follow the steps below.



1. Connect a slave station specified as a reserved station to the network.
2. Click the [Reserved Station Function Enable] button in the "CC-Link IE Field Diagnostics" window.

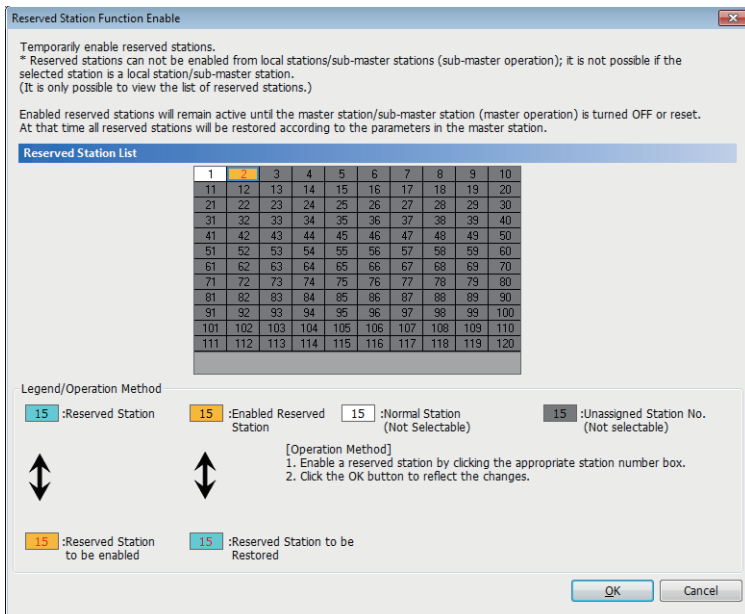
"Reserved Station Function Enable" window is displayed.

3. In "Reserved Station List", click the No. of the target station. The text turns red and the background turns orange.

Only reserved stations can be selected. The background of a reserved station No. is displayed in light blue.

4. Click the [OK] button to temporarily cancel the reservation.
5. Debug the slave station that has been added.

To reserve the slave station again, follow the steps below.



1. Open the "Reserved Station Function Enable" window in the same way as described in the procedure for temporarily canceling a reservation.

2. In "Reserved Station List", click the No. of the target station. The text turns red and the background turns light blue.

Only stations not specified as a reserved station can be selected.

The background of available modules is orange.

3. Click the [OK] button to set the station as a reserved station again.

■Parameter setting

"Network Configuration Settings" of "Basic Settings" does not reflect the temporary cancellation of reserved station specification.

■When the master station is remote RESET or the system is powered off

The disabled reserved station setting is ignored, and the slave station returns to the status set in "Network Configuration Settings" of "Basic Settings" of the master station.

■When a station for which the reserved station setting has been temporarily disabled is disconnected from the network

The following status differs between the master station and local stations after the master station is remote RESET or the system is powered off.

- ERR LED status
- SW00C0 to SW00C7 ("Reserved station setting status") and SW0180 to SW0187 ("Reserved station cancel setting status")

The difference can be corrected by the following procedure.

1. Reconnect the disconnected station.
2. Disable the reserved station setting, and enable the reserved station setting again.

■Checking the station No. of a reserved station

The station No. of a reserved station can be checked in the "Reserved Station Function Enable" window.

Enable/Disable Ignore Station Errors

A slave station not set as an error invalid station can be temporarily set as an error invalid station. This function is used to temporarily prevent detection of an error in a slave station.

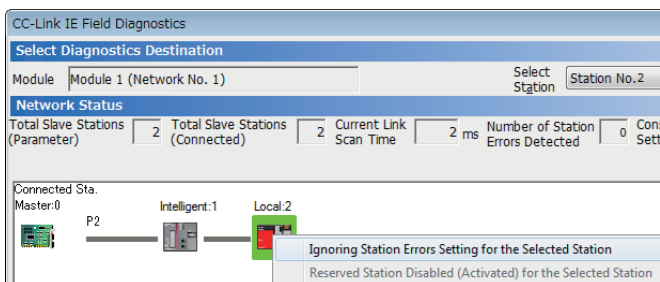
This function also cancels temporary error invalid station setting configured to a slave station.

Point

The temporary error invalid station setting can also be configured/canceled using link special relay (SB) and link special register (SW) of the master station. (☞ Page 76 List of Link Special Relay (SB), Page 83 List of Link Special Register (SW))

■Selecting the target module in "Network Status"

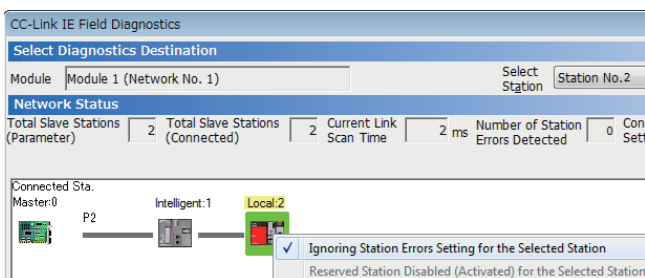
To set a temporary error invalid station, follow the steps below.



1. In "Network Status" of the "CC-Link IE Field Diagnostics" window, right-click the icon of the station to be set as a temporary error invalid station, and click "Ignoring Station Errors Setting for the Selected Station".

The text background turns yellow. The target station is temporarily set as an error invalid station.

To cancel temporary error invalid station setting, follow the steps below.



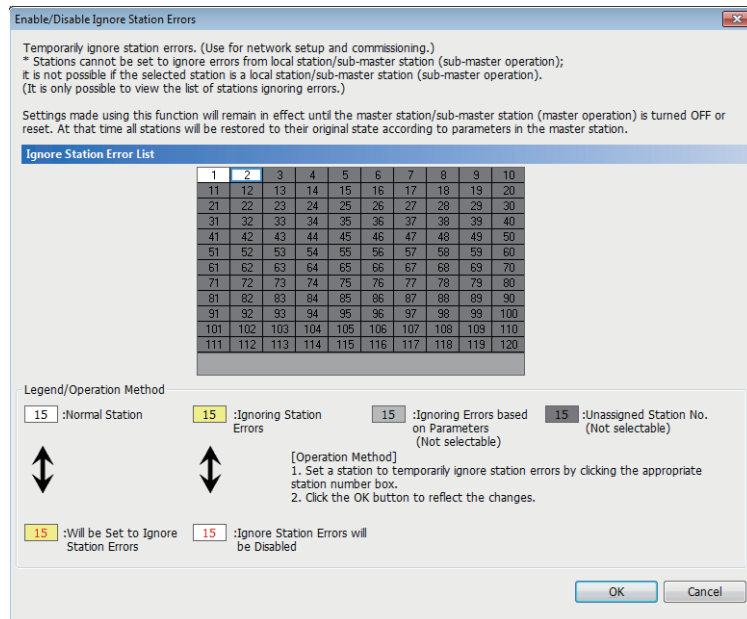
1. In "Network Status" of the "CC-Link IE Field Diagnostics" window, right-click the icon of the station for which temporary error invalid station setting is to be cancelled, and click "Ignoring Station Errors Setting for the Selected Station".

The text background turns white. The temporary error invalid station setting is cancelled.

■ Selecting the target module in the "Enable/Disable Ignore Station Errors" window

Temporary error invalid station setting can be configured to multiple slave stations through the "Enable/Disable Ignore Station Errors" window all at once.

To set a temporary error invalid station, follow the steps below.



1. Click the [Enable/Disable Ignore Station Errors] button in the "CC-Link IE Field Diagnostics" window.

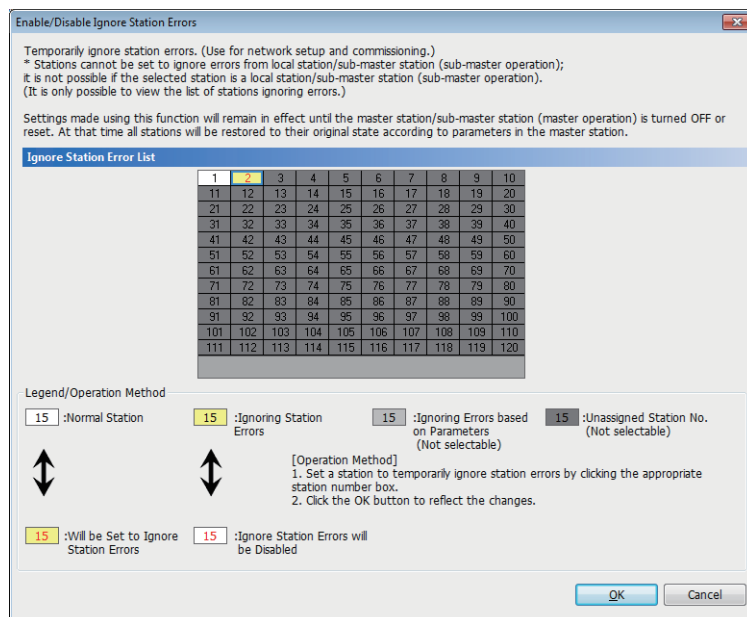
"Enable/Disable Ignore Station Errors" window is displayed.

2. In "Ignore Station Error List", click the No. of the target station. The text turns red and the background turns yellow.

Only stations for which temporary error invalid station setting has not been configured can be selected. The background of available modules is white.

3. Click the [OK] button to temporarily set the station as an error invalid station.

To cancel temporary error invalid station setting, follow the steps below.



1. Open the "Enable/Disable Ignore Station Errors" window in the same way as described in the procedure for setting a temporary error invalid station.

2. In "Ignore Station Error List", click the No. of the target station. The text turns red and the background turns white.

Only temporary error invalid stations can be selected. The background of a temporary error invalid station No. is displayed in yellow.

3. Click the [OK] button to cancel temporary error invalid station setting.

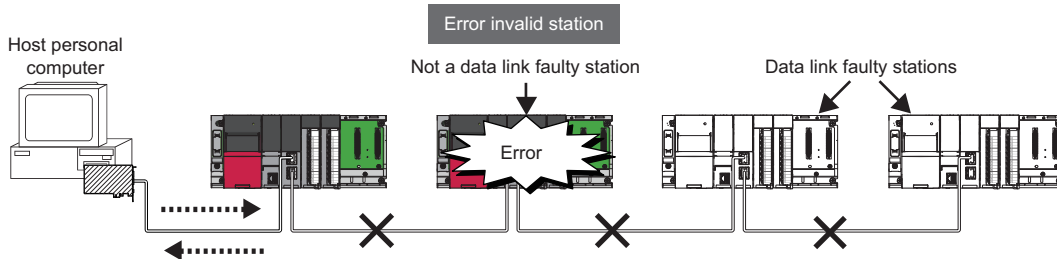
■ Stations which cannot be set as a temporary error invalid station

The temporary error invalid station setting is not available for the following station.

- A slave station for which the reserved station setting is temporarily canceled

■ Setting a temporary error invalid station in line topology

In the following case, even if a data link error occurs in the station set as an error invalid station, the station is not detected as a data link faulty station. However, subsequently connected stations are detected as data link faulty stations.



■ Parameter setting

"Network Configuration Settings" of "Basic Settings" does not reflect temporary error invalid station setting.

■ When the master station is remote RESET or the system is powered off

The temporary error invalid station setting is ignored, and the slave station returns to the status set in "Network Configuration Settings" of "Basic Settings" of the master station.

■ When a temporary error invalid station is disconnected from the network

The following status differs between the master station and local stations after the master station is remote RESET or the system is powered off.

- ERR LED status
- "Temporary error invalid station setting status" (SW00E0 to SW00E7)


The difference can be corrected by the following procedure.

1. Reconnect the disconnected station.
2. Configure the temporary error invalid station setting, and cancel the setting.

■ Checking the station No. of an error invalid station



The station No. of an error invalid station can be checked in the "Enable/Disable Ignore Station Errors" window.

4.3 Troubleshooting by Symptom

This section describes troubleshooting method by symptom. Perform these troubleshooting if data link cannot be performed even though no error is detected in the Simple Motion board. If an error has occurred in the Simple Motion board, identify the error cause using EM Configurator. ( Page 43 Checking the Network Status)



When cyclic transmission cannot be performed

The following lists the actions to be taken if cyclic transmission cannot be performed.

Check item	Action
Is the D LINK LED of the master or slave station turned off or flashing?	Perform troubleshooting for when the D LINK LED turns off or is flashing. ( Page 41 When the D LINK LED turns off or is flashing)
Is a slave station specified as a reserved station in "Network Configuration Settings" of "Basic Settings" of the master station?	Cancel the reserved station setting. ( Page 33 Network Configuration Settings)
Is "RX/Ry Setting" or "RWw/RWr Setting" for slave stations configured in "Network Configuration Settings" under "Basic Settings" of the master station?	Set RX/Ry or RWw/RWr range for each slave station.
Do the station Nos. set in "Network Configuration Settings" under "Basic Settings" of the master station match those set for corresponding slave stations?	Correct station Nos.
Do the station types set in the network configuration settings of the master station match those set for the connected slave stations?	Correct the station type set in "Network Configuration Settings" under "Basic Settings" of the master station.

When transient transmission cannot be performed

The following lists the actions to be taken if transient transmission cannot be performed with the target station.

Check item	Action
Is the D LINK LED of the master or slave station turned off?	Perform troubleshooting for when the D LINK LED turns off or is flashing. ( Page 41 When the D LINK LED turns off or is flashing)
Is the baton pass status of the destination normal?	In the CC-Link IE Field Network diagnostics, identify the cause of the error and take action. ( Page 43 Checking the Network Status)
Is the network No. overlapped on the network?	Change the duplicated network No.

If the above actions do not solve the problem, perform the following tests to check for an error.

- Communication Test ( Page 26 Communication test)

When a station is disconnected from the network

The following is the action to be taken when a station in data link is disconnected

Check item	Action
Is the ambient temperature for the module within the specified range?	Keep the ambient temperature within the specified range by taking action such as removing heat source.

If the above actions do not solve the problem, perform the following tests to check for an error.

- Cable test ( Page 52 Cable test)

When a station is repeatedly disconnected and reconnected

The following lists the actions to be taken when a station in data link is repeatedly disconnected and reconnected.

Check item	Action
Are 1000BASE-T-compliant Ethernet cables used?	Replace the cables with 1000BASE-T-compliant Ethernet cables. (Simple Motion Board User's Manual (Startup))
Is the station-to-station distance 100 m or less?	Change the station-to-station distance to 100 m or less.
Does the cabling condition (bending radius) meet the specifications?	Refer to the manual for the Ethernet cable, and correct the bending radius.
Is any Ethernet cable disconnected?	Replace the Ethernet cable.
Is the switching hub used operating normally?	<ul style="list-style-type: none"> • Check if a 1000BASE-T-compliant switching hub is used. (Simple Motion Board User's Manual (Startup)) • Power off and on the switching hub.

If the above actions do not solve the problem, perform the following tests to check for an error.

- Cable test (Page 52 Cable test)

When communication is unstable

The following lists the actions to be taken when link scan time or transmission delay time is long or when a transient transmission timeout occurred.

Check item	Action
Is the L.ERR LED of the master or slave station on?	Perform troubleshooting for when the L.ERR LED turns on. (Page 41 When the L.ERR LED turns on)
Is the ambient temperature for the module within the specified range?	Keep the ambient temperature within the specified range by taking action such as removing heat source.
Is any error shown in "Selected Station Communication Status Monitor" of CC-Link IE Field Network diagnostics? ^{*1}	If an error is identified at P2, perform a cable test.
Is there any noise affecting the system?	Check the wiring condition.

*1 When the software version of the Simple Motion board is "Ver.01":
The CC-Link IE Field Network diagnostics cannot be used.

If the above actions do not solve the problem, perform the following tests to check for an error.

- Cable test (Page 52 Cable test)

4.4 Event List

This section lists the events which occur in CC-Link IE Field Network. System and operation are included in the event types.

System		
Event code	Overview	Cause
00100	Link-up	Link-up has occurred when the network cable connected to the external device was connected.
00130	Receive frame error	Receive frame error was detected.
00500	<<Own station>> Baton pass return (network entry)	Baton pass of the own station was returned from interruption status to normal status.
00501	<<Another station>> Baton pass return (network entry)	Baton pass of another station was returned from interruption status to normal status.
00502	All stations baton pass normalization (network entry in all stations)	Baton pass was returned to normal status at all stations.
00510	<<Own station>> Data link restart (cyclic transmission started)	Data link of the own station was restarted.
00511	<<Another station>> Data link restart (cyclic transmission started)	Data link of another station was restarted.
00512	All stations data link normalization (cyclic transmission in all stations started)	Data link was returned to normal status at all stations.
00513	<<Own station>> Data link start instruction acceptance	Data link startup of the own station instruction was received.
00514	<<Own station>> Data link stop instruction acceptance	Data link stop instruction of the own station was received.
00520	<<Own station>> Temporary error invalid station setting instruction acceptance	Temporary error invalid station setting instruction was received.
00521	<<Own station>> Temporary error invalid station cancel instruction acceptance	Temporary error invalid station cancel instruction was received.
00524	<<Another station>> Temporary error invalid station setting execution	Temporary error invalid station was set at another station.
00525	<<Another station>> Temporary error invalid station cancel execution	Temporary error invalid station was canceled at another station.
00530	<<Own station>> Reserved station cancel setting instruction acceptance	Reserved station cancel setting instruction was received.
00531	<<Own station>> Reserved station enable setting instruction acceptance	Reserved station enable setting instruction was received.
00534	<<Another station>> Reserved station cancel setting execution	Reserved station cancel setting was executed at another station.
00535	<<Another station>> Reserved station enable setting instruction execution	Reserved station enable setting was executed at another station.
00541	Receive parameter error resolution	A parameter error received from master station/control station was resolved. (Normal parameter was received.)
00542	<<Own station>> Receive frame error line status caution level	A receive frame error (line status: caution level) has been occurred.
00543	<<Another station>> Receive frame error line status caution level	A receive frame error (line status: caution level) has been occurred.
00800	Link-down	Link-down has occurred when network cable connected to the external device was disconnected.
00C00	<<Own station>> Baton pass interruption (departure from network)	Baton pass of the own station was interrupted.
00C01	<<Another station>> Baton pass interruption (departure from network)	Baton pass of another station was interrupted.
00C02	Response error from/to another station	<ul style="list-style-type: none"> Abnormal response was returned from another station when accessing another station. Abnormal response was returned to another station when accessed from another station.
00C10	<<Own station>> Data link stop (cyclic transmission stopped)	Data link of the own station was stopped.

Event code	Overview	Cause
00C11	<<Another station>> Data link stop (cyclic transmission stopped)	Data link of another station was stopped.
00C20	<<Another station>> Parameter error occurrence	An parameter error has occurred in another station.
00C21	<<Another station>> Error occurrence	An error has occurred in another station.
00C22	Station already in use	Master station/submaster station duplication, or station No. overlap has occurred in the network.
00C24	<<Another station>> Receive frame error occurrence	A receive frame error has occurred at another station.
00C25	Receive parameter error occurrence	A parameter error received from the master station or control station has been detected.
00C27	Transient reception failed	Frequency of transient transmission to the own station is too high and transient reception failed.
00C28	<<Own station>> Receive frame error line status warning level	A receive frame error (line status: warning level) has been occurred.
00C29	<<Another station>> Receive frame error line status warning level	A receive frame error (line status: warning level) has been occurred.

Operation

Event code	Overview	Cause
24000	Data link startup instruction	Data link startup to the own station or another station was instructed.
24001	Data link stop instruction	Data link stop to the own station or another station was instructed.
24010	Temporary error invalid station setting instruction	Temporary error invalid station setting was instructed to the slave station.
24011	Temporary error invalid station cancel instruction	Temporary error invalid station cancel was instructed to the slave station.
24020	Reserved station cancel setting instruction	Reserved station cancel setting was instructed to the slave station.
24021	Reserved station enable setting instruction	Reserved station enable setting was instructed to the slave station.
24030	The network No., station No. setting/change instruction execution	Setting or change of the network No. or station No. was instructed to the slave station.
24100	<<Own station>> Parameter change/new parameter acceptance	Parameter was changed. Or new parameter was received at power-on.
24F00	<<Another station>> CPU operating status change detection	Operating status of the programmable controller CPU on another station was changed.

APPENDICES

Appendix 1 Label

The I/O signals, buffer memory, link special relay (SB), and link special register (SW) of the Simple Motion board can be set using the API library.

The I/O signals, buffer memory, link special relay (SB), and link special register (SW) can be accessed like a variable using the API library.

For details of the API library, refer to the following.

 Simple Motion Board User's Manual (API Library)

Ex.

For obtaining "Data link error status of own station"(SB0049)

```
bool DataLinkError = controller->IEFieldInfo.bSB[0x0049];
```

Point 

The "controller" is an object pointer of a controller class.

Appendix 2 Buffer Memory

The buffer memory is used to exchange data between the Simple Motion board and the user program. Buffer memory values are defaulted when the power supply of the Simple Motion board is turned OFF → ON or remote RESET is executed.

For the list of buffer memory addresses, refer to the following.

 Simple Motion Board User's Manual (Application)

List of buffer memory addresses

Name		Initial value	Address (decimal)	Label	Read, write
Link device area	RX area	0	100000 to 101023	MMC_EM340GF::IEFieldInfo.bRX[0]	Read
				⋮	
				MMC_EM340GF::IEFieldInfo.bRX[16383]	
				⋮	
				MMC_EM340GF::IEFieldInfo.wRX[0]	
⋮					
MMC_EM340GF::IEFieldInfo.wRX[1023]					
⋮					
MMC_EM340GF::IEFieldInfo.dwRX[0]					
⋮					
MMC_EM340GF::IEFieldInfo.dwRX[511]					
RY area	101024 to 102047		101024 to 102047	MMC_EM340GF::IEFieldInfo.bRY[0]	Read, write
				⋮	
				MMC_EM340GF::IEFieldInfo.bRY[16383]	
				⋮	
				MMC_EM340GF::IEFieldInfo.wRY[0]	
⋮					
MMC_EM340GF::IEFieldInfo.wRY[1023]					
⋮					
MMC_EM340GF::IEFieldInfo.dwRY[0]					
⋮					
MMC_EM340GF::IEFieldInfo.dwRY[511]					
RWw area	102048 to 110239		102048 to 110239	MMC_EM340GF::IEFieldInfo.wRWw[0]	Read, write
				⋮	
				MMC_EM340GF::IEFieldInfo.wRWw[8191]	
				⋮	
				MMC_EM340GF::IEFieldInfo.dwRWw[0]	
⋮					
MMC_EM340GF::IEFieldInfo.dwRWw[4095]					
RWr area	110240 to 118431		110240 to 118431	MMC_EM340GF::IEFieldInfo.wRWr[0]	Read
				⋮	
				MMC_EM340GF::IEFieldInfo.wRWr[8191]	
				⋮	
				MMC_EM340GF::IEFieldInfo.dwRWr[0]	
⋮					
MMC_EM340GF::IEFieldInfo.dwRWr[4095]					
SB area	118432 to 118463		118432 to 118463	MMC_EM340GF::IEFieldInfo.SB[0]	• 18432 to 18433 for read and write • 18434 to 18463 for read only
				⋮	
				MMC_EM340GF::IEFieldInfo.SB[511]	
SW area	118464 to 118975		118464 to 118975	MMC_EM340GF::IEFieldInfo.SW[0]	• 18464 to 18495 for read and write • 18496 to 18975 for read only
				⋮	
				MMC_EM340GF::IEFieldInfo.SW[511]	
System area		—	118976 to 119455	—	—



Name		Initial value	Address (decimal)	Label	Read, write
RX offset/size information	Station No.1 RX offset	0	119456	MMC_EM340GF::IEFieldInfo.RXAreaInfo[0].Val_Offset	Read
	Station No.1 RX size		119457	MMC_EM340GF::IEFieldInfo.RXAreaInfo[0].Val_Size	
	:		:	:	
	Station No.120 RX offset		119694	MMC_EM340GF::IEFieldInfo.RXAreaInfo[119].Val_Offset	
	Station No.120 RX size		119695	MMC_EM340GF::IEFieldInfo.RXAreaInfo[119].Val_Size	
	Station No.0 RX offset		119696	MMC_EM340GF::IEFieldInfo.RXAreaInfo[120].Val_Offset	
	Station No.0 RX size		119697	MMC_EM340GF::IEFieldInfo.RXAreaInfo[120].Val_Size	
System area		—	119698 to 119711	—	—
RY offset/size information	Station No.1 RY offset	0	119712	MMC_EM340GF::IEFieldInfo.RYAreaInfo[0].Val_Offset	Read
	Station No.1 RY size		119713	MMC_EM340GF::IEFieldInfo.RYAreaInfo[0].Val_Size	
	:		:	:	
	Station No.120 RY offset		119950	MMC_EM340GF::IEFieldInfo.RYAreaInfo[119].Val_Offset	
	Station No.120 RY size		119951	MMC_EM340GF::IEFieldInfo.RYAreaInfo[119].Val_Size	
	Station No.0 RY offset		119952	MMC_EM340GF::IEFieldInfo.RYAreaInfo[120].Val_Offset	
	Station No.0 RY size		119953	MMC_EM340GF::IEFieldInfo.RYAreaInfo[120].Val_Size	
System area		—	119954 to 119967	—	—
RWw offset/size information	Station No.1 RWw offset	0	119968	MMC_EM340GF::IEFieldInfo.RWwAreaInfo[0].Val_Offset	Read
	Station No.1 RWw size		119969	MMC_EM340GF::IEFieldInfo.RWwAreaInfo[0].Val_Size	
	:		:	:	
	Station No.120 RWw offset		120206	MMC_EM340GF::IEFieldInfo.RWwAreaInfo[119].Val_Offset	
	Station No.120 RWw size		120207	MMC_EM340GF::IEFieldInfo.RWwAreaInfo[119].Val_Size	
	Station No.0 RWw offset		120208	MMC_EM340GF::IEFieldInfo.RWwAreaInfo[120].Val_Offset	
	Station No.0 RWw size		120209	MMC_EM340GF::IEFieldInfo.RWwAreaInfo[120].Val_Size	
System area		—	120210 to 120223	—	—

Name		Initial value	Address (decimal)	Label	Read, write
RWr offset/size information	Station No.1 RWr offset	0	120224	MMC_EM340GF::IEFieldInfo.RWrAreaInfo[0].Val_Offset	Read
	Station No.1 RWr size		120225	MMC_EM340GF::IEFieldInfo.RWrAreaInfo[0].Val_Size	
	:		:	:	
	Station No.120 RWr offset		120462	MMC_EM340GF::IEFieldInfo.RWrAreaInfo[119].Val_Offset	
	Station No.120 RWr size		120463	MMC_EM340GF::IEFieldInfo.RWrAreaInfo[119].Val_Size	
	Station No.0 RWr offset		120464	MMC_EM340GF::IEFieldInfo.RWrAreaInfo[120].Val_Offset	
	Station No.0 RWr size		120465	MMC_EM340GF::IEFieldInfo.RWrAreaInfo[120].Val_Size	
System area		—	120466 to 120511	—	—
Own station (network card) information	Manufacturer code (Own station)	0	120512	MMC_EM340GF::IEFieldInfo.OwnInfo.Val_CardInfo.Val_ManufacturerCode	Read
	Model type (Own station)		120513	MMC_EM340GF::IEFieldInfo.OwnInfo.Val_CardInfo.Val_ModelType	
	Model code (Own station)	1	120514	MMC_EM340GF::IEFieldInfo.OwnInfo.Val_CardInfo.Val_ModelCode	
	Version (Own station)		120515	MMC_EM340GF::IEFieldInfo.OwnInfo.Val_CardInfo.Val_Version	
System area		—	120516 to 120519	—	—
Own station (controller) information	Controller valid/invalid flag (Own station)	0	120520	MMC_EM340GF::IEFieldInfo.OwnInfo.Val_ControllerInfo.Val_Flag	Read
	Manufacturer code (Own station)		120521	MMC_EM340GF::IEFieldInfo.OwnInfo.Val_ControllerInfo.Val_ManufacturerCode	
	Model type (Own station)		120522	MMC_EM340GF::IEFieldInfo.OwnInfo.Val_ControllerInfo.Val_ModelType	
	Model code (Own station)		120523	MMC_EM340GF::IEFieldInfo.OwnInfo.Val_ControllerInfo.Val_ModelCode	
	Version (Own station)		120524	MMC_EM340GF::IEFieldInfo.OwnInfo.Val_ControllerInfo.Val_Version	
	Model name string (Own station)		120525 to 120534	MMC_EM340GF::IEFieldInfo.OwnInfo.Val_ControllerInfo.Val_ModelName[0] : MMC_EM340GF::IEFieldInfo.OwnInfo.Val_ControllerInfo.Val_ModelName[9]	
	Vendor-specific device information (Own station)		120535 to 120536	MMC_EM340GF::IEFieldInfo.OwnInfo.Val_ControllerInfo.Val_SpecificInformation[0] : MMC_EM340GF::IEFieldInfo.OwnInfo.Val_ControllerInfo.Val_SpecificInformation[1]	
System area		—	120537 to 120543	—	—
Other station (station No.1) (network card) information	Manufacturer code	0	120544	MMC_EM340GF::IEFieldInfo.SystemInfo[0].Val_CardInfo.Val_ManufacturerCode	Read
	Model type		120545	MMC_EM340GF::IEFieldInfo.SystemInfo[0].Val_CardInfo.Val_ModelType	
	Model code		120546	MMC_EM340GF::IEFieldInfo.SystemInfo[0].Val_CardInfo.Val_ModelCode	
	Version		120547	MMC_EM340GF::IEFieldInfo.SystemInfo[0].Val_CardInfo.Val_Version	
System area		—	120548 to 120551	—	—



Name		Initial value	Address (decimal)	Label	Read, write
Other station (station No.1) (controller) information	Controller valid/invalid flag	0	120552	MMC_EM340GF::IEFieldInfo.SystemInfo[0].Val_ControllerInfo.Val_Flag	Read
	Manufacturer code		120553	MMC_EM340GF::IEFieldInfo.SystemInfo[0].Val_ControllerInfo.Val_ManufacturerCode	
	Model type		120554	MMC_EM340GF::IEFieldInfo.SystemInfo[0].Val_ControllerInfo.Val_ModelType	
	Model code		120555	MMC_EM340GF::IEFieldInfo.SystemInfo[0].Val_ControllerInfo.Val_ModelCode	
	Version		120556	MMC_EM340GF::IEFieldInfo.SystemInfo[0].Val_ControllerInfo.Val_Version	
	Model name string		120557 to 120566	MMC_EM340GF::IEFieldInfo.SystemInfo[0].Val_ControllerInfo.Val_ModelName[0] : MMC_EM340GF::IEFieldInfo.SystemInfo[0].Val_ControllerInfo.Val_ModelName[9]	
	Vendor-specific device information		120567 to 120568	MMC_EM340GF::IEFieldInfo.SystemInfo[0].Val_ControllerInfo.Val_SpecificInformation [0] : MMC_EM340GF::IEFieldInfo.SystemInfo[0].Val_ControllerInfo.Val_SpecificInformation [1]	
System area		—	120569 to 120575	—	—
Other station information (station No.2 to 120)	Same as other station information (station No.1)	—	120576 to 124383	MMC_EM340GF::IEFieldInfo.SystemInfo[1].Val_ControllerInfo : MMC_EM340GF::IEFieldInfo.SystemInfo[119].Val_ControllerInfo	—
Other station information (station No.0)	Same as other station information (station No.1)	—	124384 to 124415	MMC_EM340GF::IEFieldInfo.SystemInfo[120].Val_ControllerInfo	—
System area		—	124416 to 124479	—	—
Communication path determination status (network No.1 to 16)		0	124480	MMC_EM340GF::IEFieldInfo.Completion_CommunicationPath_network[0] : MMC_EM340GF::IEFieldInfo.Completion_CommunicationPath_network[15]	Read
Communication path determination status (network No.17 to 239)		0	124481 to 124495	MMC_EM340GF::IEFieldInfo.Completion_CommunicationPath_network[16] : MMC_EM340GF::IEFieldInfo.Completion_CommunicationPath_network[238]	Read
System area		—	124496 to 129967	—	—
PORT2 line error occurrence rate (max.)	Station No.1	0	130224	MMC_EM340GF::IEFieldInfo.Val_Port2Line_ErrorOccurrenceRate_Max[0]	Read
	Station No.2 to 120		130225 to 130343	MMC_EM340GF::IEFieldInfo.Val_Port2Line_ErrorOccurrenceRate_Max[1] : MMC_EM340GF::IEFieldInfo.Val_Port2Line_ErrorOccurrenceRate_Max[119]	Read
	Station No.0		130344	MMC_EM340GF::IEFieldInfo.Val_Port2Line_ErrorOccurrenceRate_Max[120]	Read
System area		—	130345 to 130351	—	—
PORT2 line error occurrence rate (present)	Station No.1	0	130352	MMC_EM340GF::IEFieldInfo.Val_Port2Line_ErrorOccurrenceRate_Present[0]	Read
	Station No.2 to 120		130353 to 130471	MMC_EM340GF::IEFieldInfo.Val_Port2Line_ErrorOccurrenceRate_Present[1] : MMC_EM340GF::IEFieldInfo.Val_Port2Line_ErrorOccurrenceRate_Present[119]	Read
	Station No.0		130472	MMC_EM340GF::IEFieldInfo.Val_Port2Line_ErrorOccurrenceRate_Present[120]	Read
System area		—	130473 to 165535 6295000 to 6295018 8081200 to 8353999 8354000 to 8355839	—	—

Point 

-
- Do not write data to "System area". Doing so may cause malfunction of the system.
 - If the value in an area of one word in size becomes equal to or higher than 65536, the count stops at 65535 (FFFFH).
-

Details of buffer memory addresses

Link device area

The RX, RY, RWw, and RWr values are stored.

■RX area (U0\G100000 to U0\G101023)

The RX value is stored. The RX start No. and number of points for each station No. can be checked by the RX offset/size information (U0\G119456 to U0\G119695). (☞ Page 72 RX offset/size information)

Address	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
U0\G100000	RXF	RXE	RXD	RXC	RXB	RXA	RX9	RX8	RX7	RX6	RX5	RX4	RX3	RX2	RX1	RX0
⋮																
U0\G101023	RX3F FF	RX3F FE	RX3F FD	RX3F FC	RX3F FB	RX3F FA	RX3F F9	RX3F F8	RX3F F7	RX3F F6	RX3F F5	RX3F F4	RX3F F3	RX3F F2	RX3F F1	RX3F F0

Each bit corresponds to 1 bit of RX.

■RY area (U0\G101024 to U0\G102047)

The RY value is stored. The RY start No. and number of points for each station No. can be checked by the RY offset/size information (U0\G119712 to U0\G119951). (☞ Page 72 RY offset/size information)

Address	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
U0\G101024	RYF	RYE	RYD	RYC	RYB	RYA	RY9	RY8	RY7	RY6	RY5	RY4	RY3	RY2	RY1	RY0
⋮																
U0\G102047	RY3F FF	RY3F FE	RY3F FD	RY3F FC	RY3F FB	RY3F FA	RY3F F9	RY3F F8	RY3F F7	RY3F F6	RY3F F5	RY3F F4	RY3F F3	RY3F F2	RY3F F1	RY3F F0

Each bit corresponds to 1 bit of RY.

■RWw area (U0\G102048 to U0\G110239)

The RWw value is stored. The RWw start No. and number of points for each station No. can be checked by the RWw offset/size information (U0\G119968 to U0\G120207). (☞ Page 73 RWw offset/size information)

Address	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
U0\G102048	RWw0															
U0\G102049	RWw1															
⋮																
U0\G110239	RWw1FFF															

■RWr area (U0\G110240 to U0\G118431)

The RWr value is stored. The RWr start No. and number of points for each station No. can be checked by the RWr offset/size information (U0\G120224 to U0\G120463). (☞ Page 73 RWr offset/size information)

Address	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
U0\G110240	RWr0															
U0\G110241	RWr1															
⋮																
U0\G118431	RWr1FFF															

■SB area (U0\G118432 to U0\G118463)

The SB value is stored.

Address	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
U0\G118432	SBF	SBE	SBD	SBC	SBB	SBA	SB9	SB8	SB7	SB6	SB5	SB4	SB3	SB2	SB1	SB0
⋮																
U0\G118463	SB1F F	SB1F E	SB1F D	SB1F C	SB1F B	SB1F A	SB1F 9	SB1F 8	SB1F 7	SB1F 6	SB1F 5	SB1F 4	SB1F 3	SB1F 2	SB1F 1	SB1F 0

Each bit corresponds to 1 bit of SB.

■SW area (U0\G118464 to U0\G118975)

The SW value is stored.

Address	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
U0\G118464	SW0															
U0\G118465	SW1															
⋮																
U0\G118975	SW1FFF															

RX offset/size information

■RX offset/size information (U0\G119456 to U0\G119697)

The start No. and the number of points of RX for each station are stored.

Address	Description
U0\G119456	Station No.1 offset
U0\G119457	Station No.1 size (in units of words)
U0\G119458	Station No.2 offset
U0\G119459	Station No.2 size (in units of words)
⋮	
U0\G119694	Station No.120 offset
U0\G119695	Station No.120 size (in units of words)
U0\G119696	Station No.0 offset
U0\G119697	Station No.0 size (in units of words)

The offset and size of buffer memory areas for each station No. (other than a station No. 0) can be calculated using the following formulas:

- Offset buffer memory address = $119456 + (\text{station No.} - 1) \times 2$
- Size buffer memory address = $119457 + (\text{station No.} - 1) \times 2$

RY offset/size information

■RY offset/size information (U0\G119712 to U0\G119953)

The start No. and the number of points of RY for each station are stored.

Address	Description
U0\G119712	Station No.1 offset
U0\G119713	Station No.1 size (in units of words)
U0\G119714	Station No.2 offset
U0\G119715	Station No.2 size (in units of words)
⋮	
U0\G119950	Station No.120 offset
U0\G119951	Station No.120 size (in units of words)
U0\G119952	Station No.0 offset
U0\G119953	Station No.0 size (in units of words)

The offset and size of buffer memory areas for each station No. (other than a station No. 0) can be calculated using the following formulas:

- Offset buffer memory address = $119712 + (\text{station No.} - 1) \times 2$
- Size buffer memory address = $119713 + (\text{station No.} - 1) \times 2$

RWw offset/size information

■RWw offset/size information (U0\G119968 to U0\G120209)

The start No. and the number of points of RWw for each station are stored.

Address	Description
U0\G119968	Station No.1 offset
U0\G119969	Station No.1 size (in units of words)
U0\G119970	Station No.2 offset
U0\G119971	Station No.2 size (in units of words)
⋮	
U0\G120206	Station No.120 offset
U0\G120207	Station No.120 size (in units of words)
U0\G120208	Station No.0 offset
U0\G120209	Station No.0 size (in units of words)

The offset and size of buffer memory areas for each station No. (other than a station No. 0) can be calculated using the following formulas:

- Offset buffer memory address = $119968 + (\text{station No.} - 1) \times 2$
- Size buffer memory address = $119969 + (\text{station No.} - 1) \times 2$

RWr offset/size information

■RWr offset/size information (U0\G120224 to U0\G120465)

The start No. and the number of points of RWr for each station are stored.

Address	Description
U0\G120224	Station No.1 offset
U0\G120225	Station No.1 size (in units of words)
U0\G120226	Station No.2 offset
U0\G120227	Station No.2 size (in units of words)
⋮	
U0\G120462	Station No.120 offset
U0\G120463	Station No.120 size (in units of words)
U0\G120464	Station No.0 offset
U0\G120465	Station No.0 size (in units of words)

The offset and size of buffer memory areas for each station No. (other than a station No. 0) can be calculated using the following formulas:

- Offset buffer memory address = $120224 + (\text{station No.} - 1) \times 2$
- Size buffer memory address = $120225 + (\text{station No.} - 1) \times 2$

Own station information

The information of the own station on the network is stored.

■Own station (network card) information (U0\G120512 to U0\G120515)

Address	Name	Description
U0\G120512	Manufacturer code (Own station)	The Simple Motion board information of the own station is stored.
U0\G120513	Model type (Own station)	
U0\G120514	Model code (Own station)	
U0\G120515	Version (Own station)	

■Own station (controller) information (U0\G120520 to U0\G120536)

Address	Name	Description
U0\G120520	Controller information valid/invalid flag (Own station)	Whether the value stored in the own station (controller) information is valid or invalid is stored. <ul style="list-style-type: none">• 0: Invalid• 1: Valid
U0\G120521	Manufacturer code (Own station)	The Simple Motion board information of the own station is stored.
U0\G120522	Model type (Own station)	
U0\G120523	Model code (Own station)	
U0\G120524	Version (Own station)	
U0\G120525 to U0\G120534	Model name string (Own station)	
U0\G120535 to U0\G120536	Vendor-specific device information (Own station)	

Other station information

The information of other station on the network is stored. These areas can be used in a master station only.

■Other station (network card) information (station No.1) (U0\G120544 to U0\G120547)

Address	Name	Description
U0\G120544	Manufacturer code	The information of the other station (station No.1) is stored.
U0\G120545	Model type	
U0\G120546	Model code	
U0\G120547	Version	

■Other station (controller) information (station No.1) (U0\G120552 to U0\G120568)

Address	Name	Description
U0\G120552	Controller information valid/invalid flag	Whether the value stored in Other station (controller) information (station No.1) is valid or invalid is stored. 0: Invalid 1: Valid
U0\G120553	Manufacturer code	The controller information of another station is stored.
U0\G120554	Model type	
U0\G120555	Model code	
U0\G120556	Version	
U0\G120557 to U0\G120566	Model name string	
U0\G120567 to U0\G120568	Vendor-specific device information	

■Other station information (station No.2 to 120) (U0\G120576 to U0\G124383)

The information on station No. 2 to station No. 120 is stored in the same order as Other station (network card) information (station No.1) and Other station (controller) information (station No.1).

■Other station information (station No.0) (U0\G124384 to U0\G124415)

The information on station No. 0 is stored in the same order as Other station (network card) information (station No.1) and Other station (controller) information (station No.1).

Communication path determination status

■Communication path determination status (U0\G124480 to U0\G124495)

The determination information on the communication path for each network No. of the destination station is stored.

- 0: Route undetermined
- 1: Route determined

Address	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	0
U0\G122480	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
⋮																
U0\G124494	Empty	239	238	237	236	235	234	233	232	231	230	229	228	227	226	225
U0\G124495	Empty															

The Nos. in the table indicate network Nos.

PORT2 line error occurrence rate (max.)

The receive frame error occurrence rate (maximum value) on the PORT2 side is stored.

Note that no value is stored in the area for the station No. of the own station.

■PORT2 line error occurrence rate (max.) (station No.1) (U0\G130224)

The receive frame error occurrence rate (maximum value) of station No.1 is stored.

■PORT2 line error occurrence rate (max.) (station No.2 to 120) (U0\G130225 to U0\G130343)

The receive frame error occurrence rate (maximum value) of station No.2 to 120 is stored.

■PORT2 line error occurrence rate (max.) (station No.0) (U0\G130344)

The receive frame error occurrence rate (maximum value) of station No.0 is stored.

PORT2 line error occurrence rate (present)

The receive frame error occurrence rate (present value) on the PORT2 side is stored.

Note that no value is stored in the area for the station No. of the own station.

■PORT2 line error occurrence rate (present) (station No.1) (U0\G130352)

The receive frame error occurrence rate (present value) of station No.1 is stored.

■PORT2 line error occurrence rate (present) (station No.2 to 120) (U0\G130353 to U0\G130471)

The receive frame error occurrence rate (present value) of station No.2 to 120 is stored.

■PORT2 line error occurrence rate (present) (station No.0) (U0\G130472)

The receive frame error occurrence rate (present value) of station No.0 is stored.

A

Appendix 3 List of Link Special Relay (SB)

The link special relay (SB) is turned on/off depending on various factors during data link. Any error status of the data link can be checked by using or monitoring it in the user program.

Application of link special relay (SB)

By using link special relay (SB), the status of CC-Link IE Field Network can be checked from the user program as well as EM Configurator.

Ranges turned on/off by users and by the system

The following ranges correspond to when the link special relay areas (SB) are assigned from SB0000 to SB01FF.

- Turned on/off by users: SB0000 to SB001F
- Turned on/off by the system: SB0020 to SB01FF

List of link special relay (SB)

The following table lists the link special relay areas (SB) when they are assigned from SB0000 to SB01FF.



Do not turn on or off areas whose Nos. are not on the list of link special relay (SB). Doing so may cause malfunction of the system.

No.	Name	Description
SB0000	Link startup of own station	Starts data link (cyclic transmission) of the own station. Off: Startup not requested On: Startup requested (valid at rising edge) (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • For SB0000 to SB0003, only one of the areas can be turned on.
SB0001	Link stop of own station	Stops data link (cyclic transmission) of the own station. Off: Stop not requested On: Stop requested (valid at rising edge) (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • For SB0000 to SB0003, only one of the areas can be turned on.
SB0002	System link startup	Starts data link (cyclic transmission) of the entire system. The station where cyclic transmission is started is specified in "Link startup/stop direction" (SW0000) and "Link startup/stop station specification" (SW0001 to SW0008). Off: Startup not requested On: Startup requested (valid at rising edge) (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • For SB0000 to SB0003, only one of the areas can be turned on.
SB0003	System link stop	Stops data link (cyclic transmission) of the entire system. The station where cyclic transmission is stopped is specified in "Link startup/stop direction" (SW0000) and "Link startup/stop station specification" (SW0001 to SW0008). Off: Stop not requested On: Stop requested (valid at rising edge) (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • For SB0000 to SB0003, only one of the areas can be turned on.
SB0006	Clear communication error count	Clears the link special register areas related to communication errors (SW0068 to SW006B, SW0074 to SW0077, SW007C to SW007F, SW0120 to SW015F) to 0. Off: Clear not requested On: Clear requested (valid while on)
SB0010	Temporary error invalid station setting request	Sets the station specified in "Reserved station function disable/temporary error invalid station setting" (SW0010 to SW0017) as a temporary error invalid station. Off: No request On: Request issued (When this relay is turned off, the error definition stored in "Temporary error invalid station setting result" (SW0054) is cleared.)

No.	Name	Description
SB0011	Temporary error invalid station setting cancel request	Cancels the temporary error invalid station setting for the station specified in "Reserved station function disable/temporary error invalid station setting" (SW0010 to SW0017). Off: No request On: Request issued (When this relay is turned off, the error definition stored in "Temporary error invalid station setting cancel result" (SW0055) is cleared.)
SB0012	Reserved station function disable request	Temporarily cancels the reserved station specification for the station specified in "Reserved station function disable/temporary error invalid station setting" (SW0010 to SW0017). Off: No request On: Request issued (When this relay is turned off, the error definition stored in "Result of reserved station function disable request" (SW0056) is cleared.)
SB0013	Reserved station specification enable request	Enables the reserved station specification for the station specified in "Reserved station function disable/temporary error invalid station setting" (SW0010 to SW0017). (This can only be requested for the stations whose reserved station setting is temporarily cancelled) Off: No request On: Request issued (When this relay is turned off, the error definition stored in "Result of reserved station function enable request" (SW0057) is cleared.)
SB0040	Network type of own station	Stores the network type of the own station On: CC-Link IE Field Network
SB0043	Module operation mode of own station	Stores the module operation mode of the own station. Off: Online mode On: Other than online mode
SB0044	Station setting 1 of own station	Stores the station type of the own station. Off: Slave station (other than the master station) On: Master station
SB0046	Station No. setting status of own station	Stores the station No. setting status. Off: Station No. set On: Station No. not set If parameters are set using EM Configurator, this relay is always OFF.
SB0047	Baton pass status of own station	Stores the baton pass status (transient transmission availability) of the own station. Off: Normal On: Error When this relay is turned on, the cause of the error can be checked with "Baton pass status of own station" (SW0047) and "Cause of baton pass interruption" (SW0048).
SB0049	Data link error status of own station	Stores the data link error status of the own station. Off: Normal On: Error When this relay is turned on, the cause of the error can be checked with "Cause of data link stop" (SW0049). (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB004D	Received parameter error	Stores the status of received parameter. (For the master station, this relay stores the parameter status of the own station) Off: Normal On: Error
SB0050	Link startup request accept status of own station	Stores the acceptance status of "Link startup of own station" (SB0000). Off: Not accepted (SB0000 is off.) On: Accepted (SB0000 is on.) (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0051	Link startup completion status of own station	Stores the status of link startup processing requested with "Link startup of own station" (SB0000). Off: Link startup not completed (SB0000, SB0050 are off.) On: Link startup completed (SB0000, SB0050 are on.) (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0052	Link stop request accept status of own station	Stores the acceptance status of "Link stop of own station" (SB0001). Off: Not accepted (SB0001 is off.) On: Accepted (SB0001 is on.) (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.

No.	Name	Description
SB0053	Link stop completion status of own station	Stores the link stop processing status requested with "Link stop of own station" (SB0001). Off: Not completed (SB0001, SB0052 are off.) On: Completed (SB0001, SB0052 are on.) (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0054	System link startup request accept status	Stores the acceptance status of "System link startup" (SB0002). Off: Not accepted (SB0002 is off.) On: Accepted (SB0002 is on.) (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0055	System link startup completion status	Stores the status of link startup processing requested with "System link startup" (SB0002). Off: Not completed (SB0002, SB0054 are off.) On: Completed (SB0002, SB0054 are on.) (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0056	System link stop request accept status	Stores the acceptance status of "System link stop" (SB0003). Off: Not accepted (SB0003 is off.) On: Accepted (SB0003 is on.) (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0057	System link stop completion status	Stores the status of link stop processing requested with "System link stop" (SB0003). Off: Not completed (SB0003, SB0056 are off.) On: Completed (SB0003, SB0056 are on.) (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0058	Temporary error invalid station setting request accept status	Stores the acceptance status of "Temporary error invalid station setting request" (SB0010). Off: Not accepted (SB0010 is off.) On: Accepted (SB0010 is on.)
SB0059	Temporary error invalid station setting request completion status	Stores the status of temporary error invalid station setting processing requested with "Temporary error invalid station setting request" (SB0010). Off: Not completed (SB0010, SB0058 are off.) On: Completed successfully or ended with an error (SB0010, SB0058 are on.)
SB005A	Temporary error invalid station setting cancel request accept status	Stores the acceptance status of "Temporary error invalid station setting cancel request" (SB0011). Off: Not accepted (SB0011 is off.) On: Accepted (SB0011 is on.)
SB005B	Temporary error invalid station setting cancel completion status	Stores the status of temporary error invalid station setting cancellation processing requested with "Temporary error invalid station setting cancel request" (SB0011). Off: Not completed (SB0011, SB005A are off.) On: Completed successfully or ended with an error (SB0011, SB005A are on.)
SB005C	Reserved station function disable request accept status	Stores the acceptance status of "Reserved station function disable request" (SB0012). Off: Not accepted (SB0012 is off.) On: Accepted (SB0012 is on.)
SB005D	Reserved station function disable completion status	Stores the status of temporary cancellation processing for reserved station specification which is requested with "Reserved station function disable request" (SB0012). Off: Not completed (SB0012, SB005C are off.) On: Completed successfully or ended with an error (SB0012, SB005C are on.)
SB005E	Reserved station setting enable request accept status	Stores the acceptance status of "Reserved station specification enable request" (SB0013). Off: Not accepted (SB0013 is off.) On: Accepted (SB0013 is on.)
SB005F	Reserved station setting enable completion status	Stores the temporary cancellation processing status for reserved station specification, which is requested with "Reserved station specification enable request" (SB0013). Off: Not completed (SB0013, SB005E are off.) On: Completed successfully or ended with an error (SB0013, SB005E are on.)
SB006B	PORT2 link-down status of own station	Stores the link down status of the own station P2 side. Off: Link-up On: Link-down The time that link-up starts after power-on or Ethernet cable connection may vary. Normally link-up takes several seconds. Depending on device status on the line, a link-up processing is repeated, resulting in the increase in the time.

No.	Name	Description
SB006D	PORT2 current error frame reception status of own station (1)	Stores if a receive frame error line status caution level is currently occurring in the P2 side of the own station. Off: A receive frame error line status caution level is not occurring. On: A receive frame error line status caution level is occurring.
SB006F	PORT2 error frame reception detection status of own station (latch) (1)	Stores if a receive frame error line status caution level has occurred in the P2 side of the own station from power-on until the present. Off: A receive frame error line status caution level has not yet occurred. On: A receive frame error line status caution level has occurred.
SB0074	Reserved station specification status	Stores the status of reserved station specification by parameter. The station No. of the station set as a reserved station can be checked with "Reserved station setting status" (SW00C0 to SW00C7). Off: Not specified On: Specified
SB0075	Error invalid station setting status	Stores the status of error invalid station setting by parameter. The station No. of the station set as an error invalid station can be checked with "Error invalid station setting status" (SW00D0 to SW00D7). Off: Not specified On: Specified
SB0078	Network topology setting	Stores the setting status of "Network Topology" in "Basic Settings" for the own station (master operating station). Off: Line topology, star topology, or coexistence of star and line topologies On: Ring topology
SB007B	Input data status of data link faulty station	Stores the setting status of "Data Link Error Station Setting" under "I/O Maintenance Settings" in "Application Settings" for the own station. Off: Clear On: Hold
SB007D	Hold/clear status setting for host personal computer error	Stores the setting status of "Output Hold/Clear Setting during Host Personal Computer Error" under "I/O Maintenance Settings" in "Application Settings" for the own station. Off: Hold On: Clear
SB008D	PORT2 current error frame reception status of own station (2)	Stores if a receive frame error line status warning level is currently occurring in the P2 side of the own station. Off: A receive frame error line status warning level is not occurring. On: A receive frame error line status warning level is occurring.
SB008F	PORT2 error frame reception detection status of own station (latch) (2)	Stores if a receive frame error line status warning level has occurred in the P2 side of the own station from power-on until the present. Off: A receive frame error line status warning level has not yet occurred. On: A receive frame error line status warning level has occurred.
SB0098	Network configuration mismatch occurrence status	Stores the match or mismatch status of the actual network configuration setting and the CC-Link IE Field Network configuration setting. Off: Match On: Mismatch After return or addition of the slave station, SB0098 may be turned on regardless of the actual match/mismatch status.
SB0099	Number of connected modules over occurrence status	Stores whether the number of slave stations (including a submaster station) connected is 120 or less, or 121 or more. Off: 120 or less On: 121 or more Number of connected modules is the total of the slave stations (including a submaster station) which are currently connected and the disconnected stations (slave stations which were previously connected).
SB00A0	Baton pass error status of each station	Stores the baton pass status of each station. Off: All stations normal On: Faulty station exists When this relay is turned on, the status of each station can be checked with "Baton pass status of each station" (SW00A0 to SW00A7). (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held. • Reserved stations and stations higher than the maximum station No. are ignored.
SB00A1	Baton pass error status of master station	Stores the baton pass status of the master station (master operating station). Off: Normal On: Error (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.

No.	Name	Description
SB00B0	Data link error status of each station	Stores the data link status of each station. Off: All stations normal On: Faulty station exists When this relay is turned on, the status of each station can be checked with "Data link status of each station" (SW00B0 to SW00B7). If the master station is powered on before slave stations, data link may be reconfigured. During the reconfiguration (maximum three seconds), "Data link error status of each station" (SB00B0) is turned on (error). Starting up the master station last can prevent data link from being reconnected and "Data link error status of each station" (SB00B0) from being turned on (error). (Conditions) <ul style="list-style-type: none"> • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held. • Reserved stations and stations higher than the maximum station No. are ignored.
SB00B1	Data link error status of master station	Stores the data link status of the master station (master operating station). Off: Normal On: Error (Conditions) <ul style="list-style-type: none"> • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB00B8	Network connection status of each station	Stores whether a network connected station exists. Off: No network connected station On: Network connected station exists When this relay is turned on, the status of each station can be checked with "Network connection status" (SW00B8 to SW00BF).
SB00C0	Reserved station setting status	Stores whether a reserved station is set. Off: No setting On: Set When this relay is turned on, the status of each station can be checked with "Reserved station setting status" (SW00C0 to SW00C7). (Conditions) <ul style="list-style-type: none"> • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB00D0	Error invalid station setting current status	Set whether an error invalid station is set. Off: No setting On: Set When this relay is turned on, the status of each station can be checked with "Error invalid station setting status" (SW00D0 to SW00D7). (Conditions) <ul style="list-style-type: none"> • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB00E0	Temporary error invalid station setting status	Stores whether a temporary error invalid station is set. Off: No setting On: Set When this relay is turned on, the status of each station can be checked with "Temporary error invalid station setting status" (SW00E0 to SW00E7). (Conditions) <ul style="list-style-type: none"> • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB00E8	Station type match status of each station	Stores the station type match status of each station. Off: Station type match in all stations On: Station type mismatch exists When this relay is turned on, the status of each station can be checked with "Station type match status" (SW00E8 to SW00EF).
SB00F0	CPU operating status of each station	Stores the operating status of the CPU module on each station. Off: All stations are at RUN or STEP-RUN state On: Station at STOP or PAUSE state, or station with a moderate/major error exists. When this relay is turned on, the status of each station can be checked with "CPU operating status of each station" (SW00F0 to SW00F7). (Conditions) <ul style="list-style-type: none"> • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB00F8	Network No. match status	Stores the network No. match status of each station. Off: Network No. match in all stations On: Network No. mismatch station exists When this relay is turned on, the status of each station can be checked with "Network No. match status" (SW00F8 to SW00FF).

No.	Name	Description
SB0100	CPU moderate/major error status of each station	Stores the moderate/major error or stop error occurrence status of each station. When the target station is the master/local module, the occurrence status on the control CPU is stored. Off: No moderate/major error (stop error) On: Station with a moderate/major error (stop error) exists When this relay is turned on, the status of each station can be checked with "CPU moderate/major error status of each station" (SW0100 to SW0107). (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0108	Station No. duplication occurrence status	Stores the station No. duplication occurrence status of each station. Off: Station No. not duplicated On: Station No. duplicated When this relay is turned on, the status of each station can be checked with "Station No. duplication occurrence status" (SW0108 to SW010F).
SB0110	CPU minor error status of each station	Stores the minor error or continuation error occurrence status of each station. When the target station is the master/local module, the occurrence status on the control CPU is stored. Off: All stations normal or station with a moderate/major error (stop error) exists. On: Station with a minor error (continuation error) exists. When this relay is turned on, the status of each station can be checked with "CPU minor error status of each station" (SW0110 to SW0117). (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0111	CPU minor error status of master station	Stores the minor error occurrence status of the CPU module on the master station (master operating station). Off: No minor errors, or a moderate/major error being occurred On: Minor error (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0130	PORT2 current error frame reception status (1)	Stores if a receive frame error line status caution level is currently occurring in the P2 side of each station. Off: A receive frame error line status caution level is not occurring in any stations. On: A receive frame error line status caution level is occurring in one or more stations. If a receive frame error line status caution level is occurring, the status of each station can be checked with "PORT2 current error frame reception status of each station (1)" (SW0130 to SW0137). (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0131	PORT2 current error frame reception status of master station	Stores whether the error frame is currently received at the P2 side of the master station (master operating station). Off: Not received On: Currently receiving (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0138	PORT2 current error frame reception status (2)	Stores if a receive frame error line status warning level is currently occurring in the P2 side of each station. Off: A receive frame error line status warning level is not occurring in any stations. On: A receive frame error line status warning level is occurring in one or more stations. If a receive frame error line status warning level is occurring, the status of each station can be checked with "PORT2 current error frame reception status of each station (2)" (SW0138 to SW013F). (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0150	PORT2 error frame reception detection status (1)	Stores if a receive frame error line status caution level has occurred in the P2 side of each station from power-on until the present. Off: A receive frame error line status caution level has not yet occurred in any stations. On: A receive frame error line status caution level has occurred in one or more stations. If a receive frame error line status caution level has occurred, the status of each station can be checked with "PORT2 error frame reception detection status (1)" (SW0150 to SW0157). (Conditions) • This relay is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.



No.	Name	Description
SB0151	PORT2 error frame detection of master station	Stores whether the error frame was received at the P2 side of the master station (master operating station) from power-on to the present. Off: Not received On: Received (Conditions) <ul style="list-style-type: none"> This relay is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0158	PORT2 error frame reception detection status (2)	Stores if a receive frame error line status warning level has occurred in the P2 side of each station from power-on until the present. Off: A receive frame error line status warning level has not yet occurred in any stations. On: A receive frame error line status warning level has occurred in one or more stations. If a receive frame error line status warning level has occurred, the status of each station can be checked with "PORT2 error frame reception detection status (2)" (SW0158 to SW015F). (Conditions) <ul style="list-style-type: none"> This relay is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB0170	Parameter error status of each station	Stores the parameter error status of each station. Off: All stations normal On: Faulty station exists When this relay is turned on, the status of each station can be checked with "Parameter error status of each station" (SW0170 to SW0177). (Conditions) <ul style="list-style-type: none"> This relay is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held. Reserved stations and stations higher than the maximum station No. are ignored.
SB0180	Reserved station function disable status	Stores whether there is a station whose reserved station setting is temporarily canceled. Off: Not exist On: Exists When this relay is turned on, the status of each station can be checked with "Reserved station cancel setting status" (SW0180 to SW0187). (Conditions) <ul style="list-style-type: none"> This relay is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held.
SB01E1	Setting status of CC-Link IE Field Network synchronous communication function	Stores the setting status of the CC-Link IE Field Network synchronous communication function. Off: No setting On: Set
SB01E9	Inter-module synchronization cycle over flag	Stores the cycle over occurrence status of the inter-module synchronization function. This relay is turned on if output preparation processing (link scan for network modules) is not completed within the inter-module synchronization cycle. Off: Processing time overflow has not occurred. On: Processing time overflow has occurred. Once this relay is turned on, it remains turned on even if the processing is operated within the specified inter-module synchronization cycle. The status is cleared by turning off and on the power supply or executing remote RESET.

Appendix 4 List of Link Special Register (SW)

The link special register (SW) stores the information during data link as a numerical value. Error locations and causes can be checked by using or monitoring the link special register (SW) in user programs.

Application of link special register (SW)

By using link special register (SW), the status of CC-Link IE Field Network can be checked from the user program as well as EM Configurator.

Range where data are stored by users and range where data are stored by the system

The following ranges correspond to when the link special register areas (SW) are assigned from SW0000 to SW01FF.

- Stored by users: SW0000 to SW001F
- Stored by the system: SW0020 to SW01FF

List of link special register (SW)

The following table lists the link special register areas (SW) when they are assigned from SW0000 to SW01FF.



Do not write any data to an area whose No. is not on the list of link special register (SW). Doing so may cause malfunction of the system.

No.	Name	Description																																																																																																																																																									
SW0000	Link startup/stop direction	Set the content of data link startup/stop directions. 00H: Own station 01H: All stations 02H: Specified stations 80H: Own station enforced (enabled only for data link startup) 81H: All stations enforced (enabled only for data link startup) 82H: Specified stations enforced (enabled only for data link startup) <ul style="list-style-type: none"> • Data link startup/stop is performed by "System link startup" (SB0002) or "System link stop" (SB0003). • When 02H (specified station) or 82H (specified station enforced) is selected, the own station is not included. 																																																																																																																																																									
SW0001 to SW0008	Link startup/stop station specification	Set the station No. to start or stop data link when 02H or 82H is set in "Link startup/stop direction" (SW0000). 0: Startup or stop not requested 1: Startup or stop requested <table border="1" style="margin-left: 40px;"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0001</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW0002</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW0003</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW0004</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW0005</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW0006</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW0007</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW0008</td> <td>—</td> <td>—</td> <td>—</td> <td>125</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No.</p> <ul style="list-style-type: none"> • To specify the master station operating as a submaster station (station No.0), turn on the bit of the station No.125. • While the submaster station is operating as a master operating station, setting of the submaster station No. is ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0001	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0002	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0003	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0004	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0005	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0006	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0007	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0008	—	—	—	125	—	—	—	—	120	119	118	117	116	115	114	113
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SW0008	—	—	—	125	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																											



No.	Name	Description																																																																																																																																																									
SW0010 to SW0017	Reserved station function disable/ temporary error invalid station setting	<p>Specify the slave station for which the reserved station setting is to be temporary canceled/restored, or the temporary error invalid station setting is to be set/canceled.</p> <p>0: Not specified 1: Specified</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0010</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW0011</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW0012</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW0013</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW0014</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW0015</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW0016</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW0017</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No. (Conditions)</p> <ul style="list-style-type: none"> • For some stations, reserved station setting cannot be temporarily canceled/restored or temporary error invalid station setting cannot be set/canceled. • When the submaster station No. is specified, the setting is ignored. • Stations higher than the maximum station No. are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0010	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0011	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0012	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0013	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0014	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0015	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0016	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0017	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
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SW0016	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																											
SW0017	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																											
SW0040	Network No.	Stores the network No. of the own station. Range: 1 to 239																																																																																																																																																									
SW0042	Station No.	Stores the station No. of the own station. Range: 1 to 120, 125 (master station), 255 (station No. not set)																																																																																																																																																									
SW0043	Mode status of own station	Stores the module operation mode setting or communication mode of the own station. 1: Online mode, high speed 2: Offline mode																																																																																																																																																									
SW0046	Module type	Stores the hardware status of the own station. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>b15</th> <th>to</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>to</td> <td>0</td> <td></td> <td></td> </tr> </tbody> </table> <p>Model type 00: Module 01: Board 10: Display</p>	b15	to	b2	b1	b0	0	to	0																																																																																																																																																	
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SW0047	Baton pass status of own station	Stores the baton pass status (transient transmission availability) of the own station. 0: Data link in progress 2: Baton pass in progress 3: Baton pass being terminated 4: Test in progress 5: Offline																																																																																																																																																									
SW0048	Cause of baton pass interruption	Stores the cause of interruption in the communication (baton pass) of the own station. 00H: At normal communication or power-on 30H: Cable disconnection 33H: Disconnection or return in progress 40H: Offline mode 60H: Network topology setting error																																																																																																																																																									
SW0049	Cause of data link stop	Stores the cause which stopped the data link of the own station. 00H: At normal communication or power-on 01H: Stop direction 02H: Monitoring time timeout 05H: No slave station (master station only) 10H: Parameter not received (local station only) 11H: Station No. of the own station out of the range 12H: Reserved station setting of the own station 13H: Own station No. duplication 14H: Master station duplication/submaster station duplication 16H: Station No. not set 18H: Parameter error 19H: Parameter communication in progress 1AH: Station type mismatch 1BH: Parameter mismatch 1DH: Initial processing of CC-Link IE Field Network synchronous communication 60H: Illegal ring connection (master station only)																																																																																																																																																									

No.	Name	Description
SW004A	Data link stop request station	Stores the station No. of the station that performed the data link stop request for the own station. Range: 1 to 120, 125 (master station) The data link stop request is performed by "System link stop" (SB0003). (Conditions) <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held.
SW004C	Parameter setting status	Stores the status of parameter settings. 0: Normal 1 or greater: Error definition (Error code is stored.) (Conditions) <ul style="list-style-type: none"> This register is enabled when "Received parameter error" (SB004D) is on.
SW0050	Link startup result of own station	Stores the results when data link is started by "Link startup of own station" (SB0000). 0: Normal 1 or greater: Error definition (Error code is stored.) When "Link startup of own station" (SB0000) is turned off, the stored error definition is cleared. (Conditions) <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held.
SW0051	Link stop result of own station	Stores the results when data link is stopped by "Link stop of own station" (SB0001). 0: Normal 1 or greater: Error definition (Error code is stored.) When "Link stop of own station" (SB0001) is turned off, the stored error definition is cleared. (Conditions) <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held.
SW0052	System link startup result	Stores the results when data link is started by "System link startup" (SB0002). 0: Normal 1 or greater: Error definition (Error code is stored.) When "System link startup" (SB0002) is turned off, the stored error definition is cleared. (Conditions) <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held.
SW0053	System link stop result	Stores the results when data link is stopped by "System link stop" (SB0003). 0: Normal 1 or greater: Error definition in own station (Error code is stored.) When "System link stop" (SB0003) is turned off, the stored error definition is cleared. (Conditions) <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held.
SW0054	Temporary error invalid station setting result	Stores the results when executing the temporary error invalid station setting by "Temporary error invalid station setting request" (SB0010). 0: Normal 1 or greater: Error definition (Error code is stored.) When "Temporary error invalid station setting request" (SB0010) is turned off, the stored error definition is cleared.
SW0055	Temporary error invalid station setting cancel result	Stores the results when canceling the temporary error invalid station setting by "Temporary error invalid station setting cancel request" (SB0011). 0: Normal 1 or greater: Error definition (Error code is stored.) When "Temporary error invalid station setting cancel request" (SB0011) is turned off, the stored error definition is cleared.
SW0056	Result of reserved station function disable request	Stores the results when disabling the reserved station function by "Reserved station function disable request" (SB0012). 0: Normal 1 or greater: Error definition (Error code is stored.) When "Reserved station function disable request" (SB0012) is turned off, the stored error definition is cleared.
SW0057	Result of reserved station function enable request	Stores the results when reserved station function disable is undone by "Reserved station specification enable request" (SB0013). 0: Normal 1 or greater: Error definition (Error code is stored.) When "Reserved station specification enable request" (SB0013) is turned off, the stored error definition is cleared.
SW0058	Total number of slave stations setting value	Stores the total number of slave stations that are set by the parameters. Range: 1 to 120
SW0059	Total number of slave stations present value	Stores the total number of slave stations that are actually connected by data link. Range: 1 to 120 (0 when own station is disconnected)

No.	Name	Description
SW005A	Maximum baton pass station No.	Stores the maximum station No. of the stations where the baton pass is normally performed. Range: 1 to 120 (0 when own station is disconnected) (Conditions) <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held.
SW005B	Maximum data link station No.	Stores the maximum station No. of the station where the data link is normally performed. Range: 1 to 120 (0 when own station is disconnected) (Conditions) <ul style="list-style-type: none"> This register is enabled when "Data link error status of own station" (SB0049) is off.
SW0060	Maximum link scan time	Stores the maximum value of the link scan time during cyclic transmission. (Unit: ms) (Conditions) <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held.
SW0061	Minimum link scan time	Stores the minimum value of the link scan time during cyclic transmission. (Unit: ms) (Conditions) <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held.
SW0062	Current link scan time	Stores the present value of the link scan time during cyclic transmission. (Unit: ms) The stored value contains a maximum error of 1 ms. (Conditions) <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held.
SW0064	Connection status of own station	Stores the connection status of the own station. 00H: Normal (communication in progress on P2) 01H: Normal (cable disconnected on P2) 04H: Normal (cable disconnected on P2) 10H: Normal (cable disconnected on P1, communication in progress on P2) 11H: Disconnecting (cable disconnected on P1 and P2) 12H: Disconnecting (cable disconnected on P1, establishing line on P2) 21H: Disconnecting (cable disconnected on P2) 22H: Disconnecting (establishing line on P2)
SW0066	Actual link scan time of lower 1 word	Stores the link scan time during cyclic transmission. (Unit: μ s)
SW0067	Actual link scan time of upper 1 word	
SW006A	PORT2 receive error occurrence rate of own station (max.)	Stores the occurrence rate (maximum value) of received error frames at the P2 side of the own station. (Unit: %) When "Clear communication error count" (SB0006) is turned on, the stored value for the occurrence rate is cleared.
SW006B	PORT2 receive error occurrence rate of own station (present)	Stores the occurrence rate (present value) of received error frames at the P2 side of the own station. (Unit: %) When "Clear communication error count" (SB0006) is turned on, the stored value for the occurrence rate is cleared.
SW006D	Master operating station No.	Stores the station No. of a master operating station. 0: No submaster function setting 1 to 120: Station No. of the submaster station (master operating station) 125: Master station (master operating station) (Conditions) <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held.
SW006E	Submaster operating station No.	Stores the station No. of a submaster operating station. 0: No submaster function setting 1 to 120: Station No. of the submaster station (submaster operating station) 125: Master station (submaster operating station) (Conditions) <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held.
SW007C	PORT2 cable disconnection detection count	Stores the cumulative count that was detected for cable disconnections at the P2 side. When "Clear communication error count" (SB0006) is turned on, the stored value for the number of errors is cleared. When FFFFH (maximum value 65535) is counted, the value returns to 0 and the module continues to count.
SW007D	PORT2 receive error detection count	Stores the cumulative count that error data was received at the P2 side. The count stores only error data that is not transmitted to all stations. When "Clear communication error count" (SB0006) is turned on, the stored value for the number of errors is cleared. When FFFFH (maximum value 65535) is counted, counting stops.

No.	Name	Description																																																																																																																																																									
SW007E	PORT2 total number of received data of lower 1 word	Stores the cumulative count that data was received at the P2 side. When "Clear communication error count" (SB0006) is turned on, the stored value for the number of errors is cleared. When FFFFFFFFH (maximum value 4294967295) is counted, counting stops.																																																																																																																																																									
SW007F	PORT2 total number of received data of upper 1 word																																																																																																																																																										
SW00A0 to SW00A7	Baton pass status of each station	<p>Stores the baton pass status of each station.</p> <p>0: Baton pass normal station 1: Baton pass faulty station</p> <ul style="list-style-type: none"> If multiple stations change from faulty to normal, because they are reconnected to the network one by one per link scan, the time until the status changes to "0: Baton pass normal station" may vary by several seconds. If cables are connected/disconnected or the module is reset in line and ring topologies, the token may be lost or a reconstruction may occur, causing the baton pass status to detect an error in the first link scan. <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW00A0</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW00A1</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW00A2</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW00A3</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW00A4</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW00A5</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW00A6</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW00A7</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0. (Conditions)</p> <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. Reserved stations and stations higher than the maximum station No. are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00A0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00A1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00A2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00A3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00A4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00A5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00A6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00A7	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114
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SW00A7	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114																																																																																																																																											
SW00B0 to SW00B7	Data link status of each station	<p>Stores the data link status of each station.</p> <p>0: Data link normal station 1: Data link faulty station</p> <ul style="list-style-type: none"> If multiple stations change from faulty to normal, because they are reconnected to the network one by one per link scan, the time until the status changes to "0: Data link normal station" may vary by several seconds. If no response is received for several link scans, the station is determined to be a data link faulty station. <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW00B0</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW00B1</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW00B2</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW00B3</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW00B4</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW00B5</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW00B6</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW00B7</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0. (Conditions)</p> <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. Reserved stations and stations higher than the maximum station No. are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00B0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00B1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00B2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00B3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00B4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00B5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00B6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00B7	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																											
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No.	Name	Description																																																																																																																																																									
SW00B8 to SW00BF	Network connection status	<p>Stores the network connection status.</p> <p>0: Station not connected to network 1: Station connected to network</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW00B8</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW00B9</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW00BA</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW00BB</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW00BC</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW00BD</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW00BE</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW00BF</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is not affected by "Baton pass status of each station" (SW00A0 to SW00A7), "Data link error status of each station" (SB00B0), and "Data link status of each station" (SW00B0 to SW00B7). This register is enabled only for the station which has the same network No. as a master operating station. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00B8	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00B9	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00BA	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00BB	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00BC	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00BD	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00BE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00BF	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																											
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SW00C0 to SW00C7	Reserved station setting status	<p>Stores the reserved station setting status of each station.</p> <p>0: Station other than a reserved station (included reserved stations that have been temporarily canceled) 1: Reserved station</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW00C0</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW00C1</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW00C2</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW00C3</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW00C4</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW00C5</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW00C6</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW00C7</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. This register is enabled only for normally operating stations in "Baton pass status of each station" (SW00A0 to SW00A7). Stations higher than the maximum station No. are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00C0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00C1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00C2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00C3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00C4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00C5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00C6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00C7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																											
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SW00C8 to SW00CF	Parameter setting status	<p>Stores the status of parameter settings.</p> <p>0: Station not set in the parameter 1: Station set in the parameter</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW00C8</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW00C9</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW00CA</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW00CB</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW00CC</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW00CD</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW00CE</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW00CF</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. Stations higher than the maximum station No. are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00C8	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00C9	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00CA	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00CB	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00CC	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00CD	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00CE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00CF	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																											
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SW00CA	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																											
SW00CB	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																											
SW00CC	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																											
SW00CD	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																											
SW00CE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																											
SW00CF	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																											

No.	Name	Description																																																																																																																																																									
SW00D0 to SW00D7	Error invalid station setting status	<p>Stores the error invalid station setting status of each station.</p> <p>0: Station other than an error invalid station 1: Error invalid station</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr><td>SW00D0</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr><td>SW00D1</td><td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td></tr> <tr><td>SW00D2</td><td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td></tr> <tr><td>SW00D3</td><td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td></tr> <tr><td>SW00D4</td><td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td></tr> <tr><td>SW00D5</td><td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td></tr> <tr><td>SW00D6</td><td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td></tr> <tr><td>SW00D7</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td></tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on, data prior to error is held. • Stations higher than the maximum station No. are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00D0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00D1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00D2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00D3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00D4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00D5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00D6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00D7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																											
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SW00E0 to SW00E7	Temporary error invalid station setting status	<p>Stores the temporary error invalid station setting status of each station.</p> <p>0: Station other than a temporary error invalid station 1: Temporary error invalid station</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr><td>SW00E0</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr><td>SW00E1</td><td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td></tr> <tr><td>SW00E2</td><td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td></tr> <tr><td>SW00E3</td><td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td></tr> <tr><td>SW00E4</td><td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td></tr> <tr><td>SW00E5</td><td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td></tr> <tr><td>SW00E6</td><td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td></tr> <tr><td>SW00E7</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td></tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in "Baton pass status of each station" (SW00A0 to SW00A7). • Reserved stations and stations higher than the maximum station No. are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00E0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00E1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00E2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00E3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00E4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00E5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00E6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00E7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																											
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SW00E8 to SW00EF	Station type match status	<p>Stores the match status between the station type set in the master station and that of the slave station.</p> <p>0: Station type match 1: Station type mismatch</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr><td>SW00E8</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr><td>SW00E9</td><td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td></tr> <tr><td>SW00EA</td><td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td></tr> <tr><td>SW00EB</td><td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td></tr> <tr><td>SW00EC</td><td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td></tr> <tr><td>SW00ED</td><td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td></tr> <tr><td>SW00EE</td><td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td></tr> <tr><td>SW00EF</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td></tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled only for the station in which "Network connection status" (SW00B8 to SW00BF) is on and is connected to the network. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00E8	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00E9	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00EA	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00EB	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00EC	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00ED	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00EE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00EF	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																											
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SW00E9	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																											
SW00EA	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																											
SW00EB	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																											
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SW00F0 to SW00F7	CPU operating status of each station	<p>Stores the CPU operating status of each station. 0: RUN, STEP-RUN 1: STOP, PAUSE, or a moderate or serious error occurring</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW00F0</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW00F1</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW00F2</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW00F3</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW00F4</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW00F5</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW00F6</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW00F7</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0. (Conditions) • This register is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in "Baton pass status of each station" (SW00A0 to SW00A7). • Reserved stations and stations higher than the maximum station No. are ignored.</p>		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00F0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00F1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00F2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00F3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00F4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00F5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00F6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00F7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
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SW00F7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																											
SW00F8 to SW00FF	Network No. match status	<p>Stores the match status between the network No. of the master station and that of the slave station. 0: Network No. match 1: Network No. mismatch</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW00F8</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW00F9</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW00FA</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW00FB</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW00FC</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW00FD</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW00FE</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW00FF</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p>		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW00F8	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW00F9	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW00FA	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW00FB	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW00FC	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW00FD	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW00FE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW00FF	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
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SW0100 to SW0107	CPU moderate/major error status of each station	<p>Stores the moderate/major error or stop error occurrence status of each station. When the target station is the master/local module, the occurrence status on the control CPU is stored. 0: No moderate/major error (stop error) 1: Moderate or serious error (stop error) occurring</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0100</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW0101</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW0102</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW0103</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW0104</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW0105</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW0106</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW0107</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0. (Conditions) • This register is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in "Baton pass status of each station" (SW00A0 to SW00A7). • Reserved stations and stations higher than the maximum station No. are ignored.</p>		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0100	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0101	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0102	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0103	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0104	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0105	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0106	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0107	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
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SW0108 to SW010F	Station No. duplication occurrence status	<p>Stores the station No. duplication occurrence status.</p> <p>0: Station No. not duplicated 1: Station No. duplicated</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr><td>SW0108</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr><td>SW0109</td><td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td></tr> <tr><td>SW010A</td><td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td></tr> <tr><td>SW010B</td><td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td></tr> <tr><td>SW010C</td><td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td></tr> <tr><td>SW010D</td><td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td></tr> <tr><td>SW010E</td><td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td></tr> <tr><td>SW010F</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td></tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p>		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0108	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0109	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW010A	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW010B	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW010C	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW010D	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW010E	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW010F	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																											
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SW010A	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																											
SW010B	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																											
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SW010E	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																											
SW010F	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																											
SW0110 to SW0117	CPU minor error status of each station	<p>Stores the minor error or continuation error occurrence status of each station.</p> <p>When the target station is the master/local module, the occurrence status on the control CPU is stored.</p> <p>0: Normal operation, or a moderate or serious error (stop error) occurring 1: Minor error (continuation error) occurring</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr><td>SW0110</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr><td>SW0111</td><td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td></tr> <tr><td>SW0112</td><td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td></tr> <tr><td>SW0113</td><td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td></tr> <tr><td>SW0114</td><td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td></tr> <tr><td>SW0115</td><td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td></tr> <tr><td>SW0116</td><td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td></tr> <tr><td>SW0117</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td></tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in "Baton pass status of each station" (SW00A0 to SW00A7). • Reserved stations and stations higher than the maximum station No. are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0110	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0111	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0112	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0113	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0114	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0115	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0116	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0117	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																											
SW0110	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																											
SW0111	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																											
SW0112	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																											
SW0113	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																											
SW0114	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																											
SW0115	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																											
SW0116	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																											
SW0117	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																											
SW0130 to SW0137	PORT2 current error frame reception status of each station (1)	<p>Stores the station No. where a receive frame error line status caution level is currently occurring in the P2 side of each station.</p> <p>0: A receive frame error line status caution level is not occurring. 1: A receive frame error line status caution level is occurring.</p> <p>When "Clear communication error count" (SB0006) is turned on, the stored status is cleared.</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr><td>SW0130</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr><td>SW0131</td><td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td></tr> <tr><td>SW0132</td><td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td></tr> <tr><td>SW0133</td><td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td></tr> <tr><td>SW0134</td><td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td></tr> <tr><td>SW0135</td><td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td></tr> <tr><td>SW0136</td><td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td></tr> <tr><td>SW0137</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td></tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in "Baton pass status of each station" (SW00A0 to SW00A7). 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0130	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0131	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0132	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0133	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0134	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0135	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0136	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0137	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
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SW0135	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																											
SW0136	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																											
SW0137	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																											



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SW0138 to SW013F	PORT2 current error frame reception status of each station (2)	<p>Stores the station No. where a receive frame error line status warning level is currently occurring in the P2 side of each station.</p> <p>0: A receive frame error line status warning level is not occurring. 1: A receive frame error line status warning level is occurring.</p> <p>When "Clear communication error count" (SB0006) is turned on, the stored status is cleared.</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0138</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW0139</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW013A</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW013B</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW013C</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW013D</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW013E</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW013F</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in "Baton pass status of each station" (SW00A0 to SW00A7). 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0138	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0139	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW013A	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW013B	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW013C	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW013D	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW013E	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW013F	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
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SW0138	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																												
SW0139	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																												
SW013A	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																												
SW013B	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																												
SW013C	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																												
SW013D	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																												
SW013E	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																												
SW013F	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																											
SW0150 to SW0157	PORT2 error frame reception detection status (1)	<p>Stores the station No. where a receive frame error line status caution level has occurred in the P2 side of each station from power-on until the present.</p> <p>0: A receive frame error line status caution level has not yet occurred. 1: A receive frame error line status caution level has occurred.</p> <p>When "Clear communication error count" (SB0006) is turned on, the stored status is cleared.</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th> <th>b14</th> <th>b13</th> <th>b12</th> <th>b11</th> <th>b10</th> <th>b9</th> <th>b8</th> <th>b7</th> <th>b6</th> <th>b5</th> <th>b4</th> <th>b3</th> <th>b2</th> <th>b1</th> <th>b0</th> </tr> </thead> <tbody> <tr> <td>SW0150</td> <td>16</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>SW0151</td> <td>32</td> <td>31</td> <td>30</td> <td>29</td> <td>28</td> <td>27</td> <td>26</td> <td>25</td> <td>24</td> <td>23</td> <td>22</td> <td>21</td> <td>20</td> <td>19</td> <td>18</td> <td>17</td> </tr> <tr> <td>SW0152</td> <td>48</td> <td>47</td> <td>46</td> <td>45</td> <td>44</td> <td>43</td> <td>42</td> <td>41</td> <td>40</td> <td>39</td> <td>38</td> <td>37</td> <td>36</td> <td>35</td> <td>34</td> <td>33</td> </tr> <tr> <td>SW0153</td> <td>64</td> <td>63</td> <td>62</td> <td>61</td> <td>60</td> <td>59</td> <td>58</td> <td>57</td> <td>56</td> <td>55</td> <td>54</td> <td>53</td> <td>52</td> <td>51</td> <td>50</td> <td>49</td> </tr> <tr> <td>SW0154</td> <td>80</td> <td>79</td> <td>78</td> <td>77</td> <td>76</td> <td>75</td> <td>74</td> <td>73</td> <td>72</td> <td>71</td> <td>70</td> <td>69</td> <td>68</td> <td>67</td> <td>66</td> <td>65</td> </tr> <tr> <td>SW0155</td> <td>96</td> <td>95</td> <td>94</td> <td>93</td> <td>92</td> <td>91</td> <td>90</td> <td>89</td> <td>88</td> <td>87</td> <td>86</td> <td>85</td> <td>84</td> <td>83</td> <td>82</td> <td>81</td> </tr> <tr> <td>SW0156</td> <td>112</td> <td>111</td> <td>110</td> <td>109</td> <td>108</td> <td>107</td> <td>106</td> <td>105</td> <td>104</td> <td>103</td> <td>102</td> <td>101</td> <td>100</td> <td>99</td> <td>98</td> <td>97</td> </tr> <tr> <td>SW0157</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>120</td> <td>119</td> <td>118</td> <td>117</td> <td>116</td> <td>115</td> <td>114</td> <td>113</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in "Baton pass status of each station" (SW00A0 to SW00A7). 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0150	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0151	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0152	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0153	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0154	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0155	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0156	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0157	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																												
SW0150	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																												
SW0151	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																												
SW0152	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																												
SW0153	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																												
SW0154	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																												
SW0155	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																												
SW0156	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																												
SW0157	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																											

No.	Name	Description																																																																																																																																																										
SW0158 to SW015F	PORT2 error frame reception detection status (2)	<p>Stores the station No. where a receive frame error line status warning level has occurred in the P2 side of each station from power-on until the present.</p> <p>0: A receive frame error line status warning level has not yet occurred. 1: A receive frame error line status warning level has occurred.</p> <p>When "Clear communication error count" (SB0006) is turned on, the stored status is cleared.</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr><td>SW0158</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr><td>SW0159</td><td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td></tr> <tr><td>SW015A</td><td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td></tr> <tr><td>SW015B</td><td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td></tr> <tr><td>SW015C</td><td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td></tr> <tr><td>SW015D</td><td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td></tr> <tr><td>SW015E</td><td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td></tr> <tr><td>SW015F</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td></tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. This register is enabled only for normally operating stations in "Baton pass status of each station" (SW00A0 to SW00A7). 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0158	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0159	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW015A	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW015B	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW015C	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW015D	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW015E	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW015F	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																												
SW0158	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																												
SW0159	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																												
SW015A	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																												
SW015B	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																												
SW015C	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																												
SW015D	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																												
SW015E	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																												
SW015F	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																											
SW0170 to SW0177	Parameter error status of each station	<p>Stores the parameter error status of each station.</p> <p>0: No error 1: Errors</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr><td>SW0170</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr><td>SW0171</td><td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td></tr> <tr><td>SW0172</td><td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td></tr> <tr><td>SW0173</td><td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td></tr> <tr><td>SW0174</td><td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td></tr> <tr><td>SW0175</td><td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td></tr> <tr><td>SW0176</td><td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td></tr> <tr><td>SW0177</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td></tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. This register is enabled only for normally operating stations in "Baton pass status of each station" (SW00A0 to SW00A7). Reserved stations and stations higher than the maximum station No. are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0170	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0171	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0172	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0173	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0174	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0175	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0176	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0177	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0																																																																																																																																												
SW0170	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1																																																																																																																																												
SW0171	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17																																																																																																																																												
SW0172	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33																																																																																																																																												
SW0173	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49																																																																																																																																												
SW0174	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65																																																																																																																																												
SW0175	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81																																																																																																																																												
SW0176	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97																																																																																																																																												
SW0177	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																											
SW0180 to SW0187	Reserved station cancel setting status	<p>Stores the reserved station cancel setting status of each station.</p> <p>0: No temporary cancel of the reserved station setting 1: Temporary cancel of the reserved station setting</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr><td>SW0180</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td></tr> <tr><td>SW0181</td><td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td></tr> <tr><td>SW0182</td><td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td></tr> <tr><td>SW0183</td><td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td></tr> <tr><td>SW0184</td><td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td></tr> <tr><td>SW0185</td><td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td></tr> <tr><td>SW0186</td><td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td></tr> <tr><td>SW0187</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td></tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> This register is enabled when "Baton pass status of own station" (SB0047) is off. When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. This register is enabled only for normally operating stations in "Baton pass status of each station" (SW00A0 to SW00A7). Stations higher than the maximum station No. are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW0180	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW0181	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW0182	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW0183	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW0184	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW0185	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW0186	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW0187	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
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SW0187	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																											

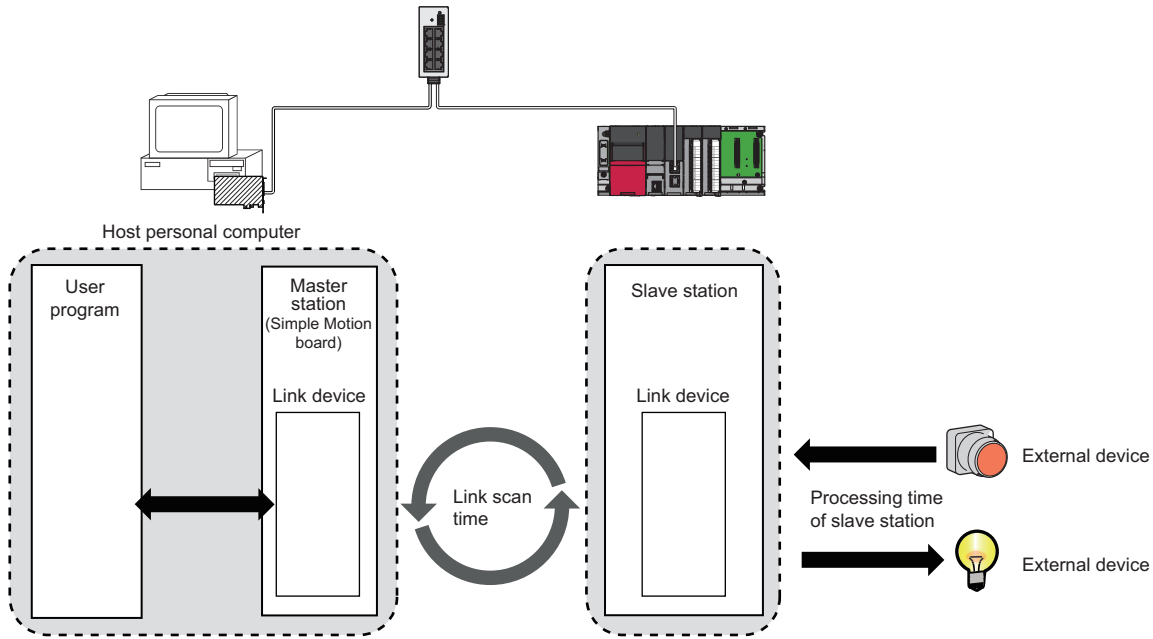


No.	Name	Description																																																																																																																																																										
SW01C0 to SW01C7	Information of CC-Link IE Field Network synchronous communication function of each station	<p>Stores the information about support or non-support of CC-Link IE Field Network synchronous communication function for each station.</p> <p>0: Not supported 1: Supported</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr> <td>SW01C0</td> <td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td> </tr> <tr> <td>SW01C1</td> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>SW01C2</td> <td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td> </tr> <tr> <td>SW01C3</td> <td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td> </tr> <tr> <td>SW01C4</td> <td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td> </tr> <tr> <td>SW01C5</td> <td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td> </tr> <tr> <td>SW01C6</td> <td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td> </tr> <tr> <td>SW01C7</td> <td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in "Baton pass status of each station" (SW00A0 to SW00A7). • Stations higher than the maximum station No. are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW01C0	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW01C1	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW01C2	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW01C3	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW01C4	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW01C5	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW01C6	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW01C7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113	
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SW01C7	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113																																																																																																																																												
SW01C8 to SW01CF	Synchronous/asynchronous operating status information of each station	<p>Stores the information about operating status of CC-Link IE Field Network synchronous communication function for each station.</p> <p>0: Asynchronous setting 1: Synchronous setting</p> <table border="1"> <thead> <tr> <th></th> <th>b15</th><th>b14</th><th>b13</th><th>b12</th><th>b11</th><th>b10</th><th>b9</th><th>b8</th><th>b7</th><th>b6</th><th>b5</th><th>b4</th><th>b3</th><th>b2</th><th>b1</th><th>b0</th> </tr> </thead> <tbody> <tr> <td>SW01C8</td> <td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td> </tr> <tr> <td>SW01C9</td> <td>32</td><td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td> </tr> <tr> <td>SW01CA</td> <td>48</td><td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td> </tr> <tr> <td>SW01CB</td> <td>64</td><td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td> </tr> <tr> <td>SW01CC</td> <td>80</td><td>79</td><td>78</td><td>77</td><td>76</td><td>75</td><td>74</td><td>73</td><td>72</td><td>71</td><td>70</td><td>69</td><td>68</td><td>67</td><td>66</td><td>65</td> </tr> <tr> <td>SW01CD</td> <td>96</td><td>95</td><td>94</td><td>93</td><td>92</td><td>91</td><td>90</td><td>89</td><td>88</td><td>87</td><td>86</td><td>85</td><td>84</td><td>83</td><td>82</td><td>81</td> </tr> <tr> <td>SW01CE</td> <td>112</td><td>111</td><td>110</td><td>109</td><td>108</td><td>107</td><td>106</td><td>105</td><td>104</td><td>103</td><td>102</td><td>101</td><td>100</td><td>99</td><td>98</td><td>97</td> </tr> <tr> <td>SW01CF</td> <td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>—</td><td>120</td><td>119</td><td>118</td><td>117</td><td>116</td><td>115</td><td>114</td><td>113</td> </tr> </tbody> </table> <p>Each No. in the table represents a station No. — is fixed to 0.</p> <p>(Conditions)</p> <ul style="list-style-type: none"> • This register is enabled when "Baton pass status of own station" (SB0047) is off. • When "Baton pass status of own station" (SB0047) is turned on (error), data prior to error is held. • This register is enabled only for normally operating stations in "Baton pass status of each station" (SW00A0 to SW00A7). • Stations higher than the maximum station No. are ignored. 		b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0	SW01C8	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	SW01C9	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	SW01CA	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	SW01CB	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	SW01CC	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	SW01CD	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	SW01CE	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	SW01CF	—	—	—	—	—	—	—	—	—	120	119	118	117	116	115	114	113
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SW01E9	Inter-module synchronization cycle over count	<p>Stores the cumulative count that a link scan could not complete an Inter-module synchronization cycle.</p> <p>The stored count is cleared by turning off and on the power supply or executing remote RESET.</p> <ul style="list-style-type: none"> • 0: Cycle over not occurred • 1 to 65535: Cumulative number of times 																																																																																																																																																										
SW01EA to SW01EB	Inter-module synchronization cycle setting value	<p>Stores the setting value of "Inter-module Synchronization Setting" in the system parameter. (Unit: μs)</p>																																																																																																																																																										

Appendix 5 Processing Time

The processing time of CC-Link IE Field Network consists of the time components below.

Link scan time + Slave station processing time = Transmission delay time



- Slave station processing time: Manual for the slave station used

Cyclic transmission delay time

The following are the formulas to calculate cyclic transmission delay time.

Between the master station and an intelligent device station/remote device station

■ Master station (RX, RWr) ← Intelligent device station/remote device station (input)

The following time is shown:

- The time between a signal input to the intelligent device station/remote device station and the link device of the master station turning on or off
- The time between data input to the intelligent device station/remote device station and the data being stored in the link device of the master station

Calculation value	No station-based block data assurance
Normal value	$(CT \times 1) + Rio$
Maximum value	$(CT \times 2) + Rio$

CT: Inter-module synchronization cycle

Rio: Intelligent device station/remote device station processing time (Manual for the intelligent device station/remote device station used)

■ Master station (RY, RWw) → Intelligent device station/remote device station (output)

The following time is shown:

- The time between the link device of the master station turning on or off and the output of the intelligent device station/remote device station being turning on or off
- The time between data set to the link device of the master station and the data output to the intelligent device station/remote device station

Calculation value	No station-based block data assurance
Normal value	$(CT \times 1) + Rio$
Maximum value	$(CT \times 2) + Rio$

CT: Inter-module synchronization cycle

Rio: Intelligent device station/remote device station processing time (Manual for the intelligent device station/remote device station used)

Master station and local stations

■ Master station (RX) ← Local station (RY)

Shows the time after the local station CPU module device is turned on or off until the master station link device is turned on or off.

(m = 1)

Calculation value	No station-based block data assurance
Normal value	$(CT \times 1) + (SL \times 1)$
Maximum value	$(CT \times 2) + (SL \times 1)$

(m = 2 to 4)

Calculation value	No station-based block data assurance
Normal value	$(CT \times m) + (SL \times n)$
Maximum value	$(CT \times (n1 + 1)) + (SL \times 2)$

CT: Inter-module synchronization cycle

SL: Local station sequence scan time

n: $(CT \times m) \div SL$ (Round up the calculated value to the nearest integer.)

n1: $SM \div CT$ (Round up the calculated value to the nearest integer.)

m: Constant of "RWw/RWr Setting" set for the local station in "Network Configuration Settings" of "Basic Settings"

Item	Number of points in "RWw/RWr Setting"			
	0 to 256 words	257 to 512 words	513 to 768 words	769 to 1024 words
m	1	2	3	4

■ Master station (RY) → Local station (RX)

Shows the time after the master station link device is turned on or off until the local station CPU module device is turned on or off.

Calculation value	No station-based block data assurance
Normal value	$(CT \times 1) + (SL \times 1)$
Maximum value	$(CT \times 2) + (SL \times 2)$

CT: Inter-module synchronization cycle

SL: Local station sequence scan time

A

■ Master station (RWr) ← Local station (RWw)

Shows the time after data is set in the local station CPU module device until the data is stored in the master station link device.

(m = 1)

Calculation value	No station-based block data assurance
Normal value	$(CT \times 1) + (SL \times 1)$
Maximum value	$(CT \times 2) + (SL \times 1)$

(m = 2 to 4)

Calculation value	No station-based block data assurance
Normal value	$(CT \times m) + (SL \times n)$
Maximum value	$(CT \times (n1 + 1)) + (SL \times 2)$

CT: Inter-module synchronization cycle

SL: Local station sequence scan time

n: $(CT \times m) \div SL$ (Round up the calculated value to the nearest integer.)

n1: $SM \div CT$ (Round up the calculated value to the nearest integer.)

m: Constant of "RWw/RWr Setting" set for the local station in "Network Configuration Settings" of "Basic Settings"

Item	Number of points in "RWw/RWr Setting"			
	0 to 256 words	257 to 512 words	513 to 768 words	769 to 1024 words
m	1	2	3	4

■ Master station (RWw) → Local station (RWr)

Shows the time after data is set in the master station link device until the data is stored in the local station CPU module device.

Calculation value	No station-based block data assurance
Normal value	$(CT \times 1) + (SL \times 1)$
Maximum value	$(CT \times 2) + (SL \times 2)$

CT: Inter-module synchronization cycle

SL: Local station sequence scan time

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REVISIONS

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

Revision date	*Manual number	Description
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June 2017	IB(NA)-0300328-B	■ Added functions CC-Link IE Field Network diagnostics ■ Added or modified parts SAFETY PRECAUTIONS, TERMS, Section 1.1, 1.2, 1.4, 2.4, 4.1, 4.2, 4.3, 4.4, Appendix 2, 3, 4
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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]

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- (2) Even within the gratis warranty term, repairs shall be charged for in the following cases.
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 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.
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MODEL: EM340-U-NET-E

MODEL CODE: 1XB052

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