

#### FACTORY AUTOMATION



#### Mitsubishi Electric Programmable Controller MELSEC iQ-F Series

## Quick Connection Guide CC-Link IE TSN Master/Local Module





## INTRODUCTION

Thank you for purchasing the Mitsubishi Electric MELSEC iQ-F series programmable controllers. This manual describes the handling of MELSEC iQ-F series FX5-CCLGN-MS CC-Link IE TSN master/local module. Before using this product, please read this manual and relevant manuals carefully and develop familiarity with the specifications to handle the product correctly.

#### Regarding use of this product

- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, please contact Mitsubishi Electric sales office.
- This product has been manufactured under strict quality control. However when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions into the system.

#### Note

- If in doubt at any stage during the installation of the product, always consult a professional electrical engineer who is qualified and trained to the local and national standards. If in doubt about the operation or use, please contact your local Mitsubishi Electric representative.
- Mitsubishi Electric will not accept responsibility for actual use of the product based on these illustrative examples. Please use it after confirming the function and safety of the equipment and system.
- The content, specification etc. of this manual may be changed, for improvement, without notice.
- The information in this manual has been carefully checked and is believed to be accurate; however, if you notice a doubtful point, an error, etc., please contact your local Mitsubishi Electric representative. When doing so, please provide the manual number given at the end of this manual.
- The term "Slave station" and "Authentication Class" have been replaced with "Device station" and "CC-Link IE TSN Class" in accordance with CC-Link Partner Association's policy. However, the terms have not been replaced yet in some areas in the engineering tool, and there may be differences between some window images of the engineering tool and the corresponding description in this manual. In that case, read the terms in the engineering tool's windows as follows.

Network name	Term used in software window	Term after change
CC-Link IE TSN	Slave station	Device station
	Authentication Class	CC-Link IE TSN Class

### CONTENTS

INTRO	ODUCTION	1
	VANT MANUALS	
	IS	
	ERIC TERMS AND ABBREVIATIONS.	
	EATURES	
СНА	PTER 1 PREPARATION	7
1.1	Applicable Models	7
1.2	Operation Flow Diagram	7
	Sample QR code for the code reader	8
1.3	System Configuration	9
1.4	Required Products	11
СНА	PTER 2 SETTING PROGRAMMABLE CONTROLLER MASTER STATION	13
2.1	Communication Settings	
2.2	Network Configuration Settings	
2.3	Refresh Settings	
2.4	Setting Parameters	
2.5	Communication Settings on GX Works3	
2.6	Writing Programs to the Programmable Controller	20
СНА	PTER 3 SETTING PROGRAMMABLE CONTROLLER LOCAL STATION	22
3.1	Communication Settings	22
3.2	Refresh Settings	22
3.3	Setting Parameters	23
3.4	Communication Settings on GX Works3	24
3.5	Writing Programs to the Programmable Controller	24
спу	PTER 4 SETTING REMOTE STATION	25
4.1	Setting the IP Address/Station Number Setting Switches	
4.2	Setting the Function Setting Switch	26
СНА	PTER 5 TCP/IP COMMUNICATION SETTING of CODE READER	27
5.1	Setting an IP Address of the Personal Computer.	27
5.2	Setting the Code Reader	27
СНА	PTER 6 OPERATION CHECK	29
6.1	Operation Check of the Local Station	
6.2	Operation Check of the Remote Station	35
6.3	Operation Check of the Code Reader (TCP/IP Communications)	37
СНА	PTER 7 TROUBLESHOOTING	39
7.1	Checking Procedure	39
7.2	Checking the LED Status	40
7.3	Checking the Error Details	

# CONTENTS

APPENDICES	49
Appendix 1 CC-Link IE TSN/CC-Link IE Field Diagnostics	49
Appendix 2 Setting an IP Address of the Personal Computer	50
REVISIONS	53
WARRANTY	54
SAFETY PRECAUTIONS	54
TRADEMARKS	54

#### **RELEVANT MANUALS**

The following relevant manuals can be downloaded from the Mitsubishi Electric FA site.

www.mitsubishielectric.co.jp/fa/ref/ref.html?kisyu=plcf&manual=download\_all

#### [O: Available, -: Not available]

Manual name	Available form	
<manual number=""></manual>	e-Manual	PDF
MELSEC iQ-F FX5S/FX5UJ/FX5U/FX5UC User's Manual (Hardware) <sh-082452eng></sh-082452eng>	0	0
MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN) <sh-082215eng></sh-082215eng>	0	0
GX Works3 Operating Manual <sh-081215eng></sh-081215eng>	0	0
CC-Link IE TSN Remote I/O Module User's Manual (CC-Link IE TSN Communication Mode) <sh-082135eng></sh-082135eng>	0	0
Code Reader Connection Guide BCN-P5999-1074	0	0
Code Reader CF26 User's Manual <sh-082092eng></sh-082092eng>	0	0
Code Reader Setting Guide <bcn-p5999-1258></bcn-p5999-1258>	0	0



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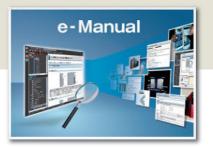
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■The installation file for Windows<sup>®</sup> can be downloaded from the following website.

http://fa-mel.com/fa/ref/ref.html?k=plceng&software=emaviewer\_en

## TERMS

Term	Description	
CC-Link IE TSN Class	A group of devices and switching hubs compatible with CC-Link IE TSN, ranked according to the functions and performance by the CC-Link Partner Association (www.cc-link.org).	
Cyclic transmission	A function by which data is periodically exchanged among stations on the same network using link devices	
Data link	Communications performed by cyclic transmission and transient transmission	
Device station	A station other than a master station: a local station, a remote station	
Disconnection	Processing for stopping the data link when a data link error occurs	
Engineering tool	A tool for setting, programming, debugging, and maintenance of programmable controller.	
GX Works3	A generic product name for SWnDND-GXW3. ('n' indicates its version.)	
Link device	A device in a module on CC-Link IE TSN	
Local station	A station that performs cyclic transmission and transient transmission with the master station and other local stations. The station is controlled by programs in the CPU module or other equivalent modules on the station.	
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.	
Remote station	A station that exchanges I/O signals (bit data) and I/O data (word data) with another station by cyclic transmission. This station can perform transient transmission.	
Return	Processing for resuming the data link when a faulty station becomes normal	
RWr	A remote register of the link device. This refers to word data input from a device station to the master station. (For some areas in a local station, data are input in the opposite direction.)	
RWw	A remote register of the link device. This refers to word data output from the master station to a device station. (For some areas in a local station, data are output in the opposite direction.)	
RX	Remote input of the link device. This refers to bit data input from a device station to the master station. (For some areas in a local station, data are input in the opposite direction.)	
RY	Remote output of the link device. This refers to bit data output from the master station to a device station. (For some areas in a local station, data are output in the opposite direction.)	
SLMP	An abbreviation for SeamLess Message Protocol. This protocol is used to access an SLMP-compatible device or a programmable controller connected to an SLMP-compatible device from an external device.	
TCP/IP communications	One of the standard network protocols used for internet communications. SLMP (SeamLess Message Protocol) is a communication method that uses TCP/IP.	
Transient transmission	A function of communications with other stations, which is used when requested by a dedicated instruction or an engineering tool	

#### **GENERIC TERMS AND ABBREVIATIONS**

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

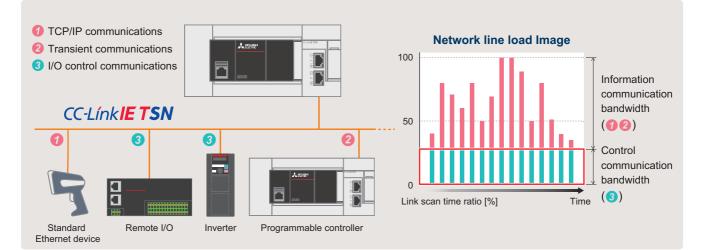
Generic term/abbreviation	Description	
CC-Link IE TSN remote module	A generic term for an A/D converter module, a D/A converter module, an I/O module	
FX5U CPU module	A generic term for FX5U-32MR/ES, FX5U-32MT/ES, FX5U-32MT/ESS, FX5U-64MR/ES, FX5U-64MT/ESS, FX5U-64MT/ESS, FX5U-80MT/ES, FX5U-80MT/ESS, FX5U-32MR/DS, FX5U-32MT/DS, FX5U-64MT/DSS, FX5U-64MT/DSS, FX5U-64MT/DSS, FX5U-80MT/DSS, FX5U-80MT/DS, FX5U-80MT/DSS, FX5U-80MT/DSS, FX5U-80MT/DSS, FX5U-80MT/DS, FX5U-80MT/DSS, FX5U-80MT/DSS, FX5U-80MT/DS, FX5U-80MT/DSS, FX5U-80MT/DS, FX5U-80MT/	
FX5UC CPU modules	A generic term for FX5UC-32MT/D, FX5UC-32MT/DSS, FX5UC-64MT/D, FX5UC-64MT/DSS, FX5UC-96MT/D, FX5UC- 96MT/DSS, FX5UC-32MT/DS-TS, FX5UC-32MT/DSS-TS, and FX5UC-32MR/DS-TS	
I/O module	An abbreviation for the CC-Link IE TSN remote I/O module	

## **KEY FEATURES**

#### Point1

#### Flexible and optimum system construction with standard Ethernet devices

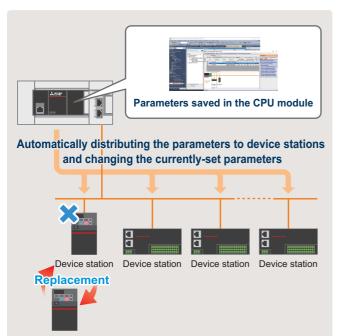
Since the CC-Link IE TSN and the TCP/IP network can coexist, the standard Ethernet devices can be used on the same line. This enables to perform control communications and information communications on the same Ethernet, reducing the design and installation cost for the system construction. Even if various data communications are performed over the network, the system control is not affected and the punctuality of control data can be ensured.



#### Point2

#### Easy replacement of device stations using

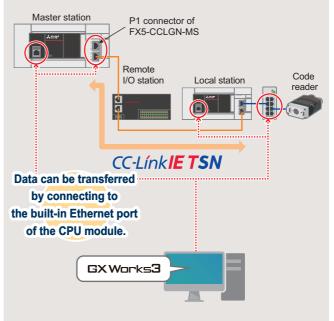
the automatic parameter distribution function Parameters stored in the CPU module by the master station are automatically distributed to the device stations when the device station is powered ON or disconnected stations return to the network. This eliminates the need of writing parameters individually to each device station even after replacement, facilitating replacement of the device stations.



#### Point3

#### Easy debug of the entire network

Parameters of all stations can be set and monitored by connecting GX Works3 to any one of the ports in the CC-Link IE TSN network. This eliminates the need of rewiring cables, reducing the debug cost.



For a setting example when GX Works3 is connected to P1 connector of the FX5-CCLGN-MS, refer to Improve Page 29 Operation Check of the Local Station.

## **1** PREPARATION

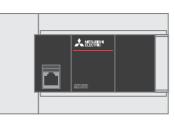
This manual describes the settings for cyclic transmission (communicating data periodically among stations on the network using link devices). For other communication functions, refer to the following.

Section 4.1 Function List in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)

## **1.1** Applicable Models

The programmable controllers described in this manual are shown in the following table.

#### Programmable controller





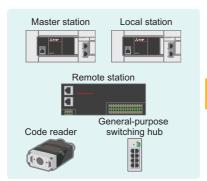
FX5U CPU module

## **1.2** Operation Flow Diagram

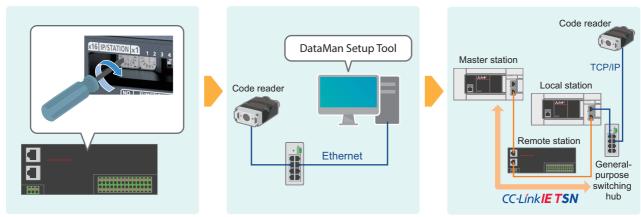
- 1. Preparing the required products
- **2.** Setting the programmable controller master station

FX5UC CPU module

**3.** Setting the programmable controller local station



- **4.** Setting the remote station
- GX Works3 Master station
- **5.** Setting TCP/IP communications of a code reader
- CX Works3 Local station
  - 6. Checking the operation



7

#### Sample QR code for the code reader

To read the QR code below, refer to the following for the procedure. ( SP Page 37 Operation Check of the Code Reader (TCP/ IP Communications))



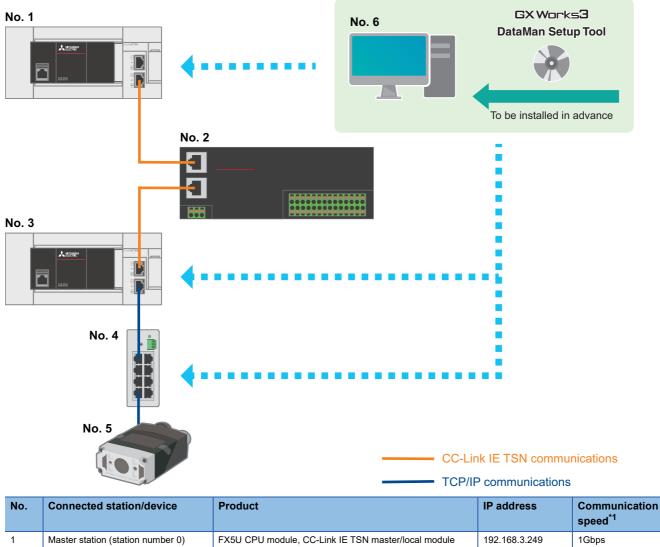


## **1.3** System Configuration

This section describes the system configuration in which two device stations (a remote station and a local station) are connected to the master station (FX5U CPU module, FX5-CCLGN-MS). They are connected in a line topology. In this system, TCP/IP communications (code reader) are mixed.

IP addresses for the modules and devices used in the system must be set in advance by a user. The same address must be set for all the subnet masks.

In this manual, the IP addresses are set to "192.168.3. u" and the subnet mask is set to "255.255.255.0".



I		(CC-Link IE TSN Class B)	132.100.0.243	10000
2	Remote station (station number 1)	CC-Link IE TSN remote module (CC-Link IE TSN Class B)	192.168.3.1	1Gbps
3	Local station (station number 2)	FX5U CPU module, CC-Link IE TSN master/local module (CC-Link IE TSN Class B)	192.168.3.11	1Gbps
4	General-purpose switching hub	-	—	1 Gbps
5	TCP/IP communication device	Code reader CF26	192.168.3.4	100Mbps
6	Personal computer	—	192.168.3.3	100Mbps

\*1 Connectable products differ depending on the communication mode and communication speed. For details, refer to the following.

For the power supply wiring of FX5U/FX5UC CPU modules, refer to the following.

For the power supply wiring of CC-Link IE TSN remote module, refer to the following.

For the power supply wiring of code reader, refer to the following.

## **1.4** Required Products

In the system configuration (refer to F Page 9 System Configuration) of this manual, the following products are used.

FX5U CPU module × 2	CC-Link IE TSN master/local module FX5-CCLGN-MS × 2	CC-Link IE TSN remote module NZ2GN2S1-32DT × 1
Use an FX5U CPU module that meets the following conditions.  • Firmware version 1.210 or later		<ul> <li>Input 16 points (DC input, positive common)</li> <li>Output 16 points (transistor output, sink)</li> <li>RX and RY (32 points each)</li> <li>RWr and RWw (4 points each)</li> </ul>

MELSENSOR code reader CF26 × 1	Breakout cable	Ethernet cable × 1
(manufactured by Mitsubishi Electric)	(manufactured by Cognex Corporation)	(manufactured by Cognex Corporation)

General-purpose products		
Ethernet cable × 3	Personal computer × 1	General-purpose switching hub × 1 <sup>*2</sup>
Use Ethernet cables compliant with the following standards. • Supporting a communication speed of 1 Gbps • Category 5e or higher straight cable (double shielded / STP) • IEEE 802.3 (1000BASE-T) • ANSI/TIA/EIA-568-B (Category 5e)	<ul> <li>GX Works3</li> <li>Supported software version: 1.065T or later</li> <li>DataMan Setup Tool<sup>*1</sup></li> <li>Supported software version: 6.1.5 or later</li> </ul>	Use a switching hub that meets the following conditions. • Supporting a communication speed of 1 Gbps • Compliance with the IEEE 802.3 (1000BASE-T) • Equipped with the auto MDI/MDI-X function • Equipped with the auto-negotiation function • Switching hub (layer 2 switch) <sup>*2</sup>

\*1 For information on how to obtain DataMan Setup Tool (configuration tool for MELSENSOR Code Reader), please contact your local Mitsubishi Electric sales office or representative.

\*2 A repeater hub cannot be used.



Wiring of CC-Link IE TSN supports a star topology and a line topology. In the system configuration example of this manual, the master station, the device stations and other devices are connected in a line topology. To connect them in a star topology, a dedicated TSN switching hub is required. For details, refer to the following.

Chapter 5 SYSTEM CONFIGURATION in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)

## **2** SETTING PROGRAMMABLE CONTROLLER MASTER STATION

This chapter describes the settings for the programmable controller master station in the system and the setting procedure.

#### 2.1 Communication Settings

For the communication setting procedure, refer to F Page 15 Setting Parameters, Step 4.

Setting item	Initial value	Setting range	Setting value
Station Type	Local Station	Master Station, Local Station	Master Station <sup>*1</sup>
Network No.	1	1 to 239	1
Station No./IP Address Setting	Parameter Editor	Parameter Editor (fixed)	Parameter Editor (fixed)
Station No.	1	Master station: 0 (fixed) Local station: 1 to 120	0 (fixed)
IP Address	Master station: 192.168.3.249 Local station: 192.168.3.11	0.0.0.1 to 223.255.255.254	192.168.3.249 <sup>*1</sup>
Subnet Mask	255.255.255.0	0.0.0.1 to 255.255.255.255	255.255.255.0

\*1 Refer to the system configuration ( Page 9 System Configuration).

#### 2.2 Network Configuration Settings

For the network configuration setting procedure, refer to F Page 15 Setting Parameters, Step 6.

Model Name	STA# <sup>*1</sup>	Station Type <sup>*1</sup>	RX Setting	RY Setting	RWr Setting	RWw Setting	IP Address <sup>*1</sup>
			Points	Points	Points	Points	
Host Station	0	Master Station	-	—	—	—	192.168.3.249
NZ2GN2S1-32DT	1	Remote Station	32	32	4	4	192.168.3.1
FX5-CCLGN-MS	2	Local Station	32	32	16	16	192.168.3.11

\*1 Refer to the system configuration ( I Page 9 System Configuration).

## 2.3 Refresh Settings

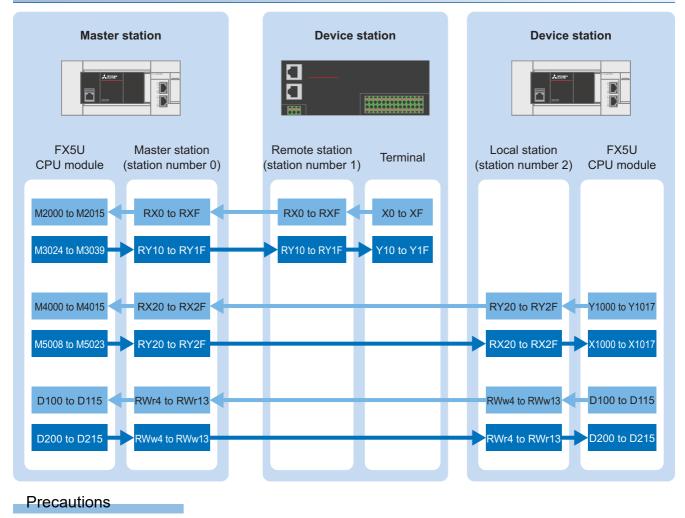
This section describes the refresh settings to perform the following data communications between the master station and the remote/local station using the link devices.

For the refresh setting procedure, refer to Page 15 Setting Parameters, Step 8.

#### **Refresh Settings**

Remote station (station number 1)	■ Remote station (station number 1)							
Assignment target device on the programmable controller side	Point	Link device on the remote station side						
M2000 to M2031	32	RX0 to RX1F						
M3008 to M3039	32	RY0 to RY1F						
■ Local station (station number 2)								
Assignment target device on the programmable controller side	Point	Link device on the local station side						
M4000 to M4031	32	RX20 to RX3F						
M5008 to M5039	32	RY20 to RY3F						
D100 to D115	16	RWr4 to RWr13						
D200 to D215	16	RWw4 to RWw13						

#### Data communications with link devices

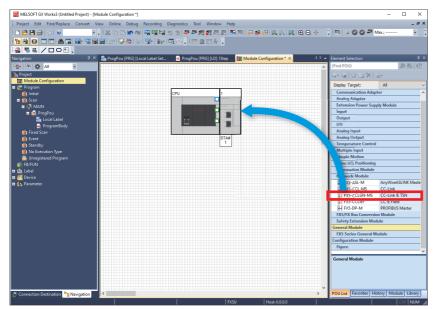


The above areas are used as the link devices for network. Do not use these areas for other purposes.

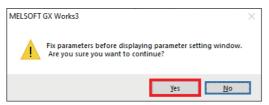
## 2.4 Setting Parameters

This section describes the communication settings, network configuration settings, and refresh settings on GX Works3.

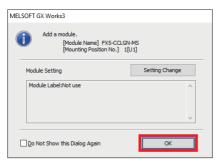
**1.** Open the "Module Configuration" window. Select "FX5-CCLGN-MS", and drag and drop it onto the "Module Configuration" window.



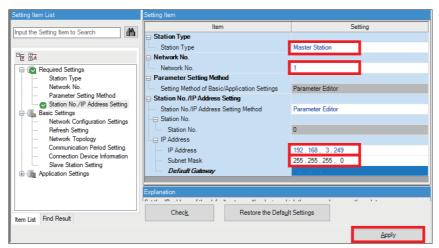
2. Double-click the added "FX5-CCLGN-MS". When the following window appears, click the [Yes] button.



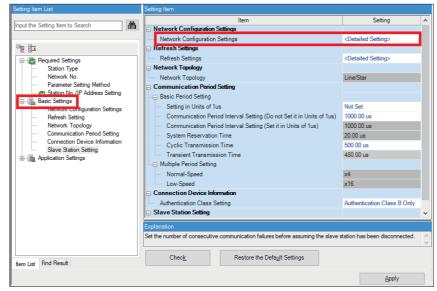
3. When the following window appears, click the [OK] button.



**4.** Set the parameters according to the communication settings ( Page 13 Communication Settings), and click the [Apply] button.



5. Click "Basic Settings" ⇒ Double-click <Detailed Setting> of "Network Configuration Settings".



In this manual, "authentication Class" is referred to as "CC-Link IE TSN Class".

6. Select the remote station (NZ2GN2S1-32DT) and the local station (FX5-CCLGN-MS) from "Module List", and drag and drop them to the network map. Set the parameters according to the network configuration settings ( Page 13 Network Configuration Settings), and click the [Close with Reflecting the Setting] button.

Product and a second										- 0	×
CC-Link IE TSN Configuration (	-				_					- U	~
CC-Link IE TSN Configuration	dit <u>V</u> iew Clos	e with Discardi <u>ng</u> the Setting	Close with <u>R</u> ef	lecting the Set	ting						
Connected/Disconnected N	Iodule Detection	Detailed Display							Module List		×
Mode Setting:	Online (Unic	rast Mode) V Accir	nment Method			$\sim$			CC-Link IE TSN Selection Find Module	My Favorites	1
Connected Count (Cur./Max.): 2		<u>1</u> 50/g	princine Pretrieu						22 男  19   10   10   10   10   10   10   10		
No. Model Na	me STA#	Station Type	RX Setting Points	RY Setting Points	RWr Setting Points	RWw Setting Points	Parameter Automatic Setting	IP Address	General CC-Link IE TSN Module     CC-Link IE TSN Module (Mitsubis	rhi Eloctric Co	morati
O Host Station	0	Master Station						192.168.3.249	Master/Local Module	an Electric Co	прогас
1 NZ2GN2S1-32D		Remote Station	32	32		4		192.168.3.1		Master/Lo	ocal Mor
E 2 FX5-CCLGN-MS	2	Local Station	32	32	16	16		192.168.3.11	FX5-CCLGN-MS	Master/Lo	ocal Mo
Host Station STA#0 Master St ation Total STA#:2 Une/Star	STA#2							,	COT2000 Series     DC Taput     DC Taput     Transistor Output     Transistor Output     Analog Output     General purpose verter     U/O coneral purpose verter     Work20001:20TT     We NZ20NC201:20TT     We NZ20NC201:20TT     We NZ20NC201:20TT	32 points 32 noints 32 points 32 points 32 points	



The parameters for the TCP/IP communication device is not set at "Network Configuration Settings" on the master station side. Set the parameters on the TCP/IP communication device. For the parameter settings on the TCP/IP communication device in this manual, refer to SP Page 27 Setting the Code Reader.

7. Double-click <Detailed Setting> of "Refresh Settings".

Setting Item List	Setting Item	
Input the Setting Item to Search	Setting Item  Network Configuration Settings  Network Configuration Settings  Refresh Settings  Refresh Settings  Network Topology  Communication Period Setting  Setting in Units of 1us  Communication Period Interval Setting (Do not Set it in Units of 1us)  Communication Period Interval Setting (Set it in Units of 1us)  System Reservation Time	Setting CDetailed Setting> CDetailed Setting> CDetailed Setting> Line/Star Not Set 1000.00 us 1000.00 us 2000.00 us
Communication Period Setting     Connection Device Information     Slave Station Setting     Setting	Cyclic Transmission Time     Transient Transmission Time     Multiple Period Setting     Normal-Speed     Low-Speed	20.00 us 500.00 us 480.00 us x4 x16
	Connection Device Information Authentication Class Setting Slave Station Setting	Authentication Class B Only
tem List Find Result	Explanation Set the number of device points and assignments of slave station to the master stat Check Restore the Default Settings	tion.

In this manual, "authentication Class" is referred to as "CC-Link IE TSN Class".

8. Set the parameters according to the refresh settings, and click the [Apply] button. (SP Page 14 Refresh Settings)

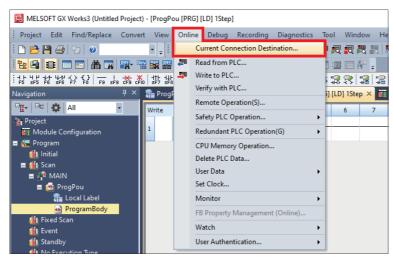
			Link Side						CPU Sid	le			
No.	Device N	Vame	Points	Start	End		Target		Device Name	Points	Start	End	
-	SB	$\sim$				+		$\sim$					
	SW	$\sim$				-		$\sim$					
1	RX	$\sim$	32	00000	0001F	+	Specify Device	$\sim$	M	/ 32	2000	2031	L
2	RY	$\sim$	32	00000	0001F	+	Specify Device	$\sim$	M	/ 32	3008	3039	L
3	RX	$\sim$	32	00020	0003F	- 🖶 -	Specify Device	$\sim$	M	/ 32	4000	4031	L
4	RY	$\sim$	32	00020	0003F	-	Specify Device	$\sim$	M	/ 32	5008	5039	L
5	RWr	$\sim$	16	00004	00013	+	Specify Device	$\sim$	D	/ 16	100	115	L
6	RW/w	$\sim$	16	00004	00013	- 🖶 -	Specify Device	$\sim$	D	/ 16	200	215	L
7		$\sim$						$\sim$					١.
•						-							
olana	ition												
	Chec <u>k</u>		R	estore th	e Defa <u>u</u> l	t Settings							
										_			_
											Appl	v	

## 2.5 Communication Settings on GX Works3

This section describes how to perform the communication test before writing programs to the programmable controller. Directly connect the Ethernet ports with a cable as shown below.



1. Select [Online] ⇒ [Current Connection Destination].



2. Select "Direct Coupled Setting".

connection Destination Simple	e Setting Connection		×
Direct Coupled Setting     Please select the direct of	connection method with CPU	module.	
● <u>E</u> thernet			
	Ethernet Board Ethern Ether	using a hub.	
	Not Specified	an Euremet port unect coupled setting.	
<u>A</u> dapter	Not Specified	· · · · · · · · · · · · · · · · · · ·	5.
			5.
IP Address of Adapter		Communication $\underline{T}est$	5.
IP Address of Adapter O Other Connection Metho	d	Communication $\underline{T}$ est	5.
	want to connect to ection method other	Communication <u>T</u> est Other Connection Method (Open the Specify Connection Destination window)	5.

**3.** Specify an Ethernet adapter of the personal computer which is used when the personal computer is directly connected to the CPU module.

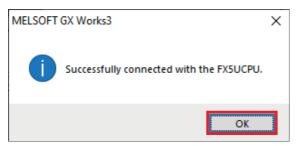
When "Not Specified" is set, select an adapter to be used from the drop-down list.

Connection Destination Simple	e Setting Connection	×
Direct Coupled Setting		
Please select the direct of	onnection method with CPU r	nodule.
● <u>E</u> thernet		
	Ethernet Board Ethern Ethern th the CPU module without us ify the IP address of CPU mod	ing a hub. ule.
		Ethernet port direct coupled settings.
<u>A</u> dapter	Not Specified	
IP Address of Adapter		Communication <u>T</u> est
Other Connection Metho	d	
Select this method if you CPU module with a conne than the direct coupled s	ection method other	Other Connection Method (Open the Specify Connection Destination window)
Do not show this dialo * Always open the Sp Connection Destination	ecify OK	Cancel

4. After the adapter is selected, click the [Communication Test] button.

Connection Destination Simple							
	2 Setting Connection	×					
Direct Coupled Setting							
Please select the direct c	onnection method with CPU m	nodule.					
Ethernet							
0.1							
Ethernet Board Ethernet Ethernet Directly communicate with the CPU module without using a hub. It is not required to specify the IP address of CPU module.							
	* This setting is applied to all	Ethernet port direct coupled settings.					
<u>A</u> dapter	Static Hannel Consults	×					
IP Address of Adapter	10.97.219.90	Communication <u>T</u> est					
		Communication <u>T</u> est					
IP Address of Adapter O Other Connection Methou Select this method if you CPU module with a conne than the direct coupled s	d want to connect to ection method other	Communication Test Other Connection Method (Open the Specify Connection Destination window)					

5. When the following window appears, click the [OK] button.



For the connection via a hub, refer to the following.

Section 4.2 Connection Via a Hub in the MELSEC iQ-F FX5 User's Manual (Ethernet Communication)

## **2.6** Writing Programs to the Programmable Controller

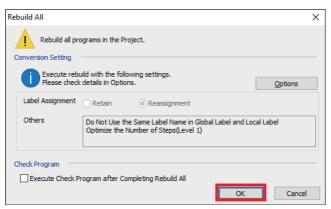
This section describes how to write programs to the programmable controller.

Before writing the program to the programmable controller, an operation to finalize the logic and parameters must be performed.

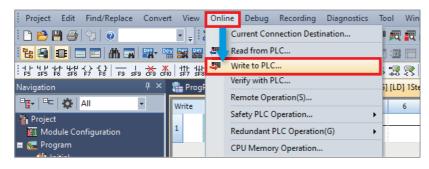
**1.** Select [Convert] ⇒ [Rebuild All].

Project Edit Find/Replace	Con	ivert	View	Online	Debug	Recording	Diag
i 🗅 📂 💾 🎒 🗐 📀	P	Cor	nvert(B)			F4	R 🖬 (
	飋		ine Prog	ram Char	nge	Shift+F4	- 🗔
++++++++++++++++++++++++++++++++++++++	<b>P</b>	Reb	uild All		Shif	t+Alt+F4	↓ GiF5 Gi
Navigation		Che	eck Synta	ах		+	H) Pr
🖳   🖛   🇱   All			-	e Setting Execution		tting	4
Project			ing	xecution	order se	ung	
E S Program							1

#### 2. Click the [OK] button.



**3.** Select [Online]  $\Rightarrow$  [Write to PLC].



4. Click the [Parameter + Program] button, and click the [Execute] button.

lay <u>S</u> etting			-	-	PT /				
5)/ <b>/</b> 15		× 3	, Q ==	Verit		Delete			
Parameter +	Program(E) Select All	Legend					-		
Open/C	e All( <u>T</u> ) Deselect All( <u>N</u> )	<ul> <li>CPU</li> </ul>	Built-in Me	mory	SD I	femory Card	Intelligent Function Module		
Iodule Nan	ata Name	*	1		Detail	Title	Last Change	Size (Byte)	1
- Un	d Project								
- 🚯	ameter								
-	System Parameter/CPU Parameter						8/26/2020 9:04:58 AM	Not Calculated	
	Module Parameter						8/26/2020 9:04:54 AM	Not Calculated	
	Memory Card Parameter						8/26/2020 9:04:54 AM	Not Calculated	
14	Remote Password						8/26/2020 9:04:54 AM	Not Calculated	
0 🚯	bal Label								
1-4	Global Label Setting						8/26/2020 9:04:59 AM	Not Calculated	
0 🚮	gram								
	MAIN						8/26/2020 9:04:59 AM	Not Calculated	
- 🖼	vice Memory								
1.1-4	MADA				Datal		8/36/3030 9-04-59 AM		10
Disp nony Capaci Siza Cali	amory Capacity 😴 🗌 Check Program Memory —	Memory Capaci	ty before Wr	iting					Free 64000/640005tep
gend Used	Data Memory Program:1024/1024KB	Re	storation Inf	lo:1024/102	4KB P	arameten 1024/1024K	B Device Comment: 2048,		Free
Increased Decreased	SD Memory Card								Free 0/0428
Free: \$%	ss Program:0/UKB	N	storation Ini	0:0/0KB	^	arameter:0,/0408	Device Commenta0/040		

**5.** When the following window appears, click the [Yes to all] button.

MELSOFT GX	MELSOFT GX Works3						
<u> </u>	The followi Are you sur	ing file already exists. e you want to overwrite	a it?				
System Par CPU Param Module Par Program Fil	ieter ameter			× _			
<u>Y</u> es		Yes to <u>a</u> ll N <u>o</u> to all	Cancel				
<u>10</u>			Sauces				

**6.** After the programs are written to the programmable controller, reset or power OFF and ON the programmable controller.

# **3** SETTING PROGRAMMABLE CONTROLLER LOCAL STATION

This chapter describes the settings for the programmable controller local station in the system.

#### **3.1** Communication Settings

For the communication setting procedure, refer to IP Page 23 Setting Parameters, Step 4.

Setting item	Initial value	Setting range	Setting value
Station Type	Local Station	Master Station, Local Station	Local Station <sup>*1</sup>
Network No.	1	1 to 239	1
Station No./IP Address Setting Method	Parameter Editor	Parameter Editor (fixed)	Parameter Editor (fixed)
Station No.	1	Master station: 0 (fixed) Local station: 1 to 120	2*1
IP Address	Master station: 192.168.3.249 Local station: 192.168.3.11	0.0.0.1 to 223.255.255.254	192.168.3.11 <sup>*1</sup>
Subnet Mask	255.255.255.0	0.0.0.1 to 255.255.255.255	255.255.255.0

\*1 Refer to the system configuration ( Page 9 System Configuration).

#### 3.2 Refresh Settings

This section describes the refresh settings for the local station by referring to Section 2.3 Refresh Setting. (EP Page 14 Refresh Settings)

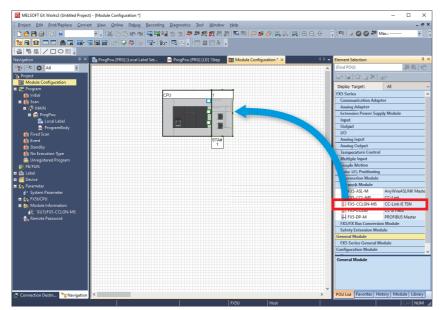
For the refresh setting procedure, refer to I Page 23 Setting Parameters, Step 6.

Assignment target device on the programmable controller side	Point	Link device
Y1000 to Y1017	16	RY20 to RY2F
X1000 to X1017	16	RX20 to RX2F
D100 to D115	16	RWw4 to RWw13
D200 to D215	16	RWr4 to RWr13

## 3.3 Setting Parameters

This section describes the communication settings and refresh settings on GX Works3.

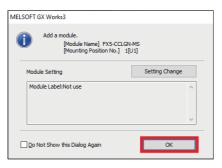
**1.** Open the "Module Configuration" window. Select "FX5-CCLGN-MS", and drag and drop it onto the "Module Configuration" window.



2. Double-click the added "FX5-CCLGN-MS". When the following window appears, click the [Yes] button.



3. When the following window appears, click the [OK] button.



**4.** Set the parameters according to the communication settings ( Page 22 Communication Settings), and click the [Apply] button.

ietting Item List	Setting Item	
曲	Item	Setting
	Station Type	Local Station
	Network No.	
	Network No.	1
Station Type     Network No.	Parameter Setting Method     Setting Method	Parameter Editor
Parameter Setting Method	Setting Method of Basic/Application Settings Station No./IP Address Setting	Parameter Editor
Station No./IP Address Setting	Station No./IP Address Setting Method	Parameter Editor
Application Settings	- Station No.	
	Station No.	2
	IP Address	192.168.3.11
	Subnet Mask	255.255.255.0
	Default Gateway	and the second sec
	Explanation	
Item List Find Result	Check Restore the Defa	ult Settings

5. Double-click <Detailed Setting> of "Refresh Settings".

1[U1]:FX5-CCLGN-MS Module Parameter			×
Setting Item List	Setting Item		
- M	Item	Setting	
	Refresh Settings Refresh Settings	<pre>cDetailed Setting&gt;</pre>	
	non county	Country county	
Required Settings			
Station Type     Network No.			
Parameter Setting Method			
Station No./IP Address Setting			
Refresh Setting     Application Settings			
	]		
	Explanation		
Item List Find Result	Chec <u>k</u>	Restore the Defa <u>u</u> lt Settings	
			Apply

6. Set the parameters according to the refresh settings (F Page 22 Refresh Settings), and click the [Apply] button.

			Link Side				CPU Side				^			
No.	Device Nar	ne	Points	Start	End		Target		Device Name	e	Points	Start	End	
-	SB	$\sim$				+		$\sim$						
-	SW	$\sim$				- 🖨 -		$\sim$						
1	RY	$\sim$	16	00020	0002F	+	Specify Device	$\sim$	Y	$\sim$	16	1000	1017	
2	RX	$\sim$	16	00020	0002F	- 😝 -	Specify Device	$\sim$	X	$\sim$	16	1000	1017	
3	RWw	$\sim$	16	00004	00013	- 😝 -	Specify Device	$\sim$	D	$\sim$	16	100	115	
4	RWr	$\sim$	16	00004	00013		Specify Device	$\sim$	D	$\overline{\mathbf{v}}$	16	200	215	ι.

#### **3.4** Communication Settings on GX Works3

Directly connect the Ethernet ports with a cable. (EP Page 18 Communication Settings on GX Works3)

#### **3.5** Writing Programs to the Programmable Controller

The programs are transferred to the programmable controller. ( Page 20 Writing Programs to the Programmable Controller)

# **4** SETTING REMOTE STATION

The functions of the I/O module can be set using the function setting switch on the CC-Link IE TSN remote I/O module. The setting using the IP address/station number setting switches is enabled when the power of the I/O module is ON. Therefore, use the IP address/station number setting switches when the power of the I/O module is OFF.

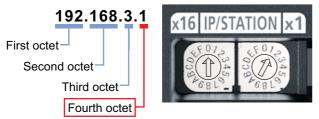
	TATION x1 1 2 3 4 5 6 7 8 9 10 0N	W X0 2 4 6 8 A C E Y1012 14 16 18 1A 1C IE I/O PW 1 3 5 7 9 B D F 11 13 15 17 19 1B 1D 1F	
P2 CC-L/nk/IE TSN class B NZ2GN251-32DT	2-41 RESPONSE 8/9 LUNK P1/P2 S Hold/clear 10 INK SPEED	X0 2 4 6 8 A C E 1012 14 15 13 1A IC IE COM+ 1 3 5 7 9 8 D F 11 18 15 17 19 18 D IF COM-MRLS	IC

Function setting switch

IP address/station number setting switches

# 4.1 Setting the IP Address/Station Number Setting Switches

The fourth octet of the IP address is set using the IP address/station number setting switches on the front of the I/O module. IP address (192.168.3.1) is set for the CC-Link IE TSN remote I/O module (NZ2GN2S1-32DT) in this manual. ( Page 9 System Configuration)



For details, refer to the following.

Section 6.2 Setting Switch in the CC-Link IE TSN Remote I/O Module User's Manual (CC-Link IE TSN Communication Mode)

## **4.2** Setting the Function Setting Switch

The following functions are set using the function setting switch (1 to 10) on the front of the I/O module. The setting using the function setting switch is enabled when the power of the I/O module is ON. Therefore, use the function setting switch when the power of the I/O module is OFF.

The following table lists the functions to be set in this manual.

Switch		Function	Setting	Setting value	Setting value to be set
Function setting switch 1	NETWORK	Network setting function	Set this switch to OFF in normal operation.	OFF	—
Function setting switch 2	RESPONSE	Input response time	Set the input response time.	OFF	1 ms
Function setting switch 3		setting function	official OFF		
Function setting switch 4				OFF	
Function setting switch 5	HOLD/CLEAR	Output HOLD/CLEAR setting function	Set output HOLD/CLEAR.	OFF	CLEAR
Function setting switch 6, function setting switch 7	MODE	Use prohibited	Fix these switches to OFF.	OFF	—
Function setting switch 8, function setting switch 9	F LINK P1/P2	Use prohibited	Fix these switches to OFF.	OFF	-
Function setting switch 10	LINK SPEED	Communication speed setting function	Set the communication speed.	OFF	1 Gbps

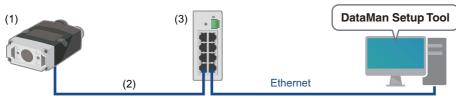


For details on the function setting switch, refer to the following.

Section 6.2 Setting Switch in the CC-Link IE TSN Remote I/O Module User's Manual (CC-Link IE TSN Communication Mode)

## 5 TCP/IP COMMUNICATION SETTING of CODE READER

This chapter describes the settings for communicating with the symbols to be read and the master station by connecting the code reader to the personal computer.



(1) Code reader

(2) Ethernet cable (manufactured by Cognex Corporation)

(3) General-purpose switching hub

#### 5.1 Setting an IP Address of the Personal Computer

Set the IP address (192.168.3.3) to the personal computer. (F Page 50 Setting an IP Address of the Personal Computer)

#### 5.2 Setting the Code Reader

Set the following setting values to the code reader using DataMan Setup Tool. For the setting procedure, refer to the following. Section 2.3 Setting the Code Reader in the Code Reader Connection Guide

	Setting item	Initial value	Setting value
Repair & Support	Code reader	None	CF26
Network Settings	IP Address	None	192.168.3.4 <sup>*1</sup>
	Subnet Mask	None	255.255.255.0
Application Type		Undefined	Indexed, Stationary
Application Details	Trigger Settings	Single (external)	Single (external)
	Exposure	Manual Exposure	Automatic Exposure
Format Data	Universal	None	Standard
	General	None	Full string
	Terminating Text	None	CR/LF
Communications	Industrial Protocols	None	SLMP
	IP Address	None	192.168.3.249 <sup>*2</sup>
	Host Port	None	1393 <sup>*3</sup>
	Timeout [ms]	0	1000
	Poll Interval [ms]	0	100
	PLC Series	QCPU	iQFCPU
	Network Number	0	0
	PC Number [hex]	1	FF
	Destination Module	0x3FF = Local station	0x3FF = Local station
	Device assignment on the PLC side	None	🖙 Page 28

\*1 For the IP address assigned to the code reader, refer to 🖙 Page 9 System Configuration.

\*2 For the IP address assigned to the CPU module (master station), refer to 🗁 Page 9 System Configuration.

\*3 The port number that corresponds to SLMP (TCP/IP) of the CPU module (master station). The port number is a fixed value depending on its application. For details, refer to the following.

QAppendix 7 Port Number in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)

#### Device assignment on the PLC side

Name	Selected device	Offset	Number of devices	Description
Control	D-Data Register	1000	2	Vision control block starting address
Status	D-Data Register	1002	2	Vision status block starting address
PLC Input	D-Data Register	1005	5	User data block starting address
PLC Output	D-Data Register	1010	100	Inspection results block starting address
Command	D-Data Register	2000	100	Command string starting address
Command Result	D-Data Register	2100	100	Command result data starting address

#### Devices to be used in this manual

Device	Device name	Description
D1000.0	Trigger Enable	Image Capturing Trigger (D1000.1) is enabled while this device is ON.
D1000.1	Trigger	An image is captured when this device is turned ON.
D1002.9	Decode Complete	The state of the device changes from "0" to "1" at the completion of decoding of a code reader.
D1015 to D1020	PLC Output	A QR code ( SP Page 7 Operation Flow Diagram) read result is stored. Read result: ABCDEFG01234

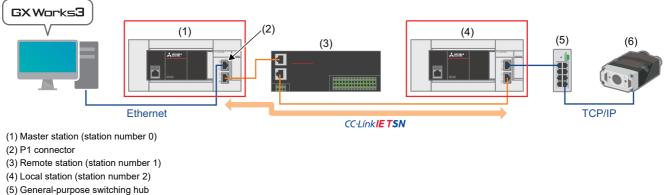
# **6** OPERATION CHECK

This chapter describes the operation check based on the system configuration ( Page 9).

## 6.1 Operation Check of the Local Station

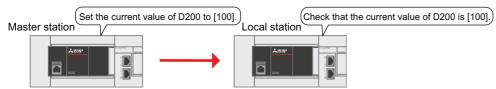
This section checks whether communications are performed between the master station and the local station normally. Configure the system as shown below.

Set the RUN/STOP/RESET switch of the CPU module on the master station to the RUN position.

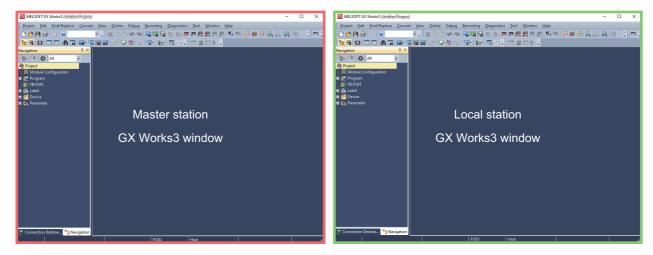


(6) Code reader

#### Checking communications from the master station to the local station



**1.** Start project data of the master station and the local station on the personal computer.



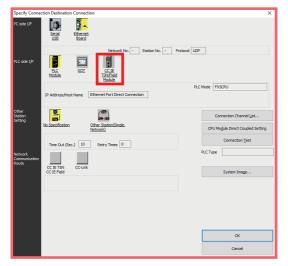
2. On GX Works3 window of the master station, select [Online] ⇒ [Current Connection Destination]. The "Connection Destination Simple Setting Connection" window appears. To set the connection other than "Direct Coupled Setting", perform Steps 1 and 2.

Select "Other Connection Method".

2 Select "Other Connection Method (Open the Specify Connection Destination window)".



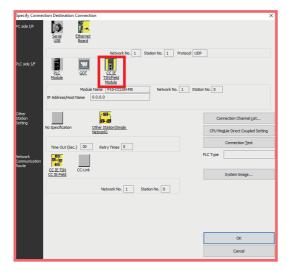
- 3. Click "CC IE TSN/Field Module".



4. Click the [Yes] button.



5. Double-click "CC IE TSN/Field Module".



#### 6. Click the [Find] button.

PLC side I/F Detailed Setting of CC IE TSN/Field Module			×
PLC Mode FX5CPU V			
Ethernet Port Direct Connection	Connection via HUB		
PLC Type FX5-COLGN-MS	PLC Type FX	5-CCLGN-MS v	
* Please select 'Connection via HUB' when you use HUB even if there is only one target device to communicate.	Network No. 1	Station No.	0
If HUB is connected to other devices and also 'Ethernet Port Direct Connection' is selected during communication, the line	IP <u>A</u> ddress	0 0 0 0	IP Input Format DEC 🗸 🗸
brect Connection is selected during communication, the line becomes overloaded. This might affect other devices' communication.	⊖ Host <u>N</u> ame		
Search for CC IE TSN module on network. Response Wait Time 2 Seconds Display Only CPU TY	me of Project(V)	lection IP Address Input	Find(S)
Search for CC IE TSN module on the same network. Unable t - No response within a specific time period. - Connected via a router or subnet mask is different.			Tanu(g)
IP Address PLC Type Label		Comment	^
c			×
		ОК	Cancel

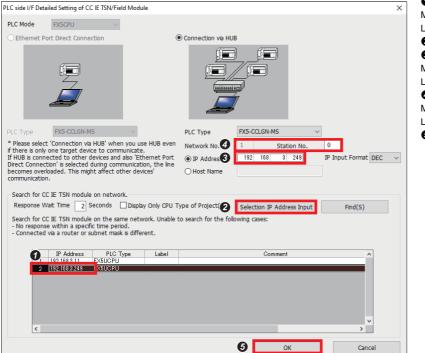
7. Click the [Yes] button.

MELSOFT	GX Works3	$\times$
	Multiple adapters were connected to the personal computer. Do you want to specify the adapter for which CPU Find is executed?	
	<u>Y</u> es <u>N</u> o	

**8.** Select an Ethernet adapter connected to P1 connector of the personal computer from the drop-down list, and click the [OK] button.



9. To set the connection destination to the IP address of the master station or the local station, perform Steps () to ().



Select an IP address.
Master station: 192.168.3.249
Local station: 192.168.3.11
Click the [Selection IP Address Input] button.
Check that the selected IP address is displayed.
Master station: 192.168.3.249
Local station: 192.168.3.11
Select a station number.
Master station: 0
Local station: 2
Click the [OK] button.

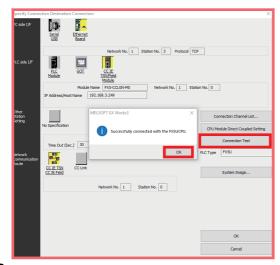
10. Double-click "Ethernet Board".

Specify Conne		×
rc soe nr	Send Element	
	Network No. 1 Station No. 1 Protocol UDP	1
PLC side I/F	RLC SOT CCLE Module	
	Module Name FX5-CCLGN-MS Network No. 1 Station No. 0	
	IP Address/Host Name 192.168.3.249	
Other		-
Station	Connection Channel List	
Setting	No Specification Other Station(Single_ Network) CPU Module Direct Coupled Setting	
	Time Out (Sec.) 30 Retry Times 0 Connection Test	
Network	PLC Type	
Communication	PLC Type	
Route	CC IE TSN CC-Link	
	CC IE Field System Image	
	Network No. 1 Station No. 0	
	OK	
	Cancel	

**11.** Set a unique station number in "Station No." on the same loop. Set "3" in this manual. Select "TCP" for "Protocol". Click the [OK] button.

PC side	I/F Detailed	d Setting of Ethernet Board	×							
Ne	twork No.	1								
Sta	ition No.	3								
Plea Net	This setting is an assignment for Ethernet board. Please execute the following settings. Network No.: Network No. of Ethernet/CC IE TSN module set in parameter. Station No.: Station No. that does not overlap on the same loop.									
sho - Co - Co	Network No. and station No. are not necessary for the communication route shown below. - Communication with Ethernet port of CPU built-in Ethernet. - Communication via GOT Transparent. - Communication via CC IE Field Ethernet adapter.									
Pro	tocol [	TCP v OK Cancel								

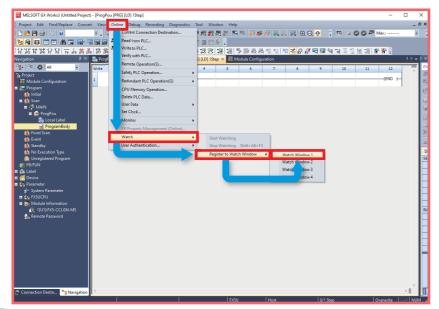
**12.** Click the [Communication Test] button. When the message "Successfully connected with the FX5UCPU" appears, click the [OK] button.



**13.** Repeat Steps 2 to 12 on GX Works3 window of the local station. However, the setting values in Step 9 are as follows.

Setting item	Setting value	Description			
IP Address	192.168.3.11	An IP address of the local station			
Station No.	2	A station number of the local station			

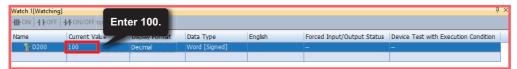
**14.** On GX Works3 window of the master station, select [Online] on the menu bar ⇔ [Watch] ⇔ [Register to Watch Window] ⇔ [Watch Window 1].



15. Enter "D200" in "Name". Right-click on "D200", and select [Start Watching].

Execution
Execution

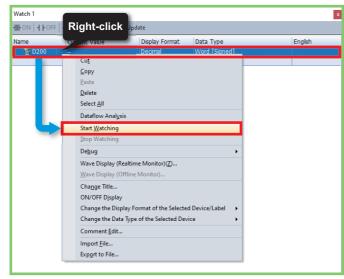
16. Enter "100" in the "Current Value" column.



**17.** On GX Works3 window of the local station, select [Online] on the menu bar ⇔ [Watch] ⇔ [Register to Watch Window] ⇔ [Watch Window 1].

Project Edit Find/Replace Convert Vie	w Online Debug Recording Diagnostics	Tool Wi	ndow H	Help								- 6
1 🖻 💾 🎒 12 1 💿 👘 🖓 1	Current Connection Destination	1 100 100	思 認	🐘 📖	🔎 💕	<i></i>		k ⊕ ∈	-0-	11 III   11 📀 (	2 F	
	Read from PLC Write to PLC Verify with PLC Remote Operation(S)	: 💷 🖿	177 - 178   2	2 5 8		} *E *≘	17 <b>7</b>	88	R 🗱	역 및 물 을 본 Element Selection (Find POU) 화 와 앱 다 값 급 X 고	9 1	- <b>4</b>
"Pogram     (in Initial     (if Scn     )     (if ALN)     (if Constant)     (if Constant)     (if Press Scn     (if Scnt     (if Scnt)     (if Scnt)	CPU Memory Operation Delete PLC Data Use Data Set Clock Monitor FB Property Management (Online) Watch User Authentication		art Watch	-	ft+Alt+F3	8				Display Target: SEQUENCE INSTR Contact instruct Association inst Output instructio Master Control Termination ins Stop instructio	tions ruction ions ns instruc truction	s
<ul> <li>It No Execution Type</li> <li>It Norspitered Program</li> <li>It For FUN</li> <li>The bel</li> <li>Device</li> <li>Parameter</li> <li>System Parameter</li> <li>Top Table Conference</li> <li>It Out Star Conference</li> <li>It Unit Star Conference</li> <li>It Unit Star Conference</li> </ul>		Re	gister to	Watch W	indow			Window Vindow Jow Jow Jow Jow H		BASIC INSTRUCT Comparison Op Arithmetic Ope Data transfer ir Logical Operati Data shift instr Bit processing Data Conversio	eration ration i struction on instr uctions nstructi	nstri ons uctio

18. Enter "D200" in "Name". Right-click on "D200", and select [Start Watching].



**19.** Check that "100" is entered in the "Current Value" column.

Watch 1[Watching]	Check that	100 is ente	red.				τ, χ
Name	current value	Display Format	рата туре	English	Forced Input/Output Status	Device Test with Execution Condition	
🔡 D200	100	Decimal	Word [Signed]		-	-	

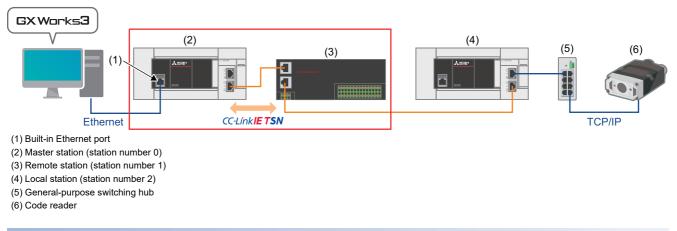
## 6.2 Operation Check of the Remote Station

This section checks whether communications are performed between the master station and the remote station normally.

Configure the system as shown below.

Set the RUN/STOP/RESET switch of the CPU module on the master station to the RUN position.

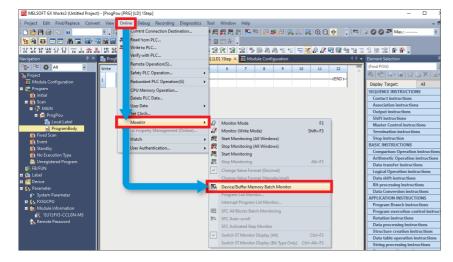
For the communication setting, refer to IP Page 18 Communication Settings on GX Works3.



#### Checking communications from the master station to the remote station



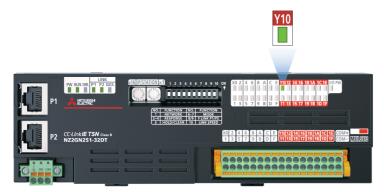
1. On GX Works3, select [Online] on the menu bar ⇔ [Monitor] ⇔ [Device/Buffer Memory Batch Monitor].



2. Enter "M3024" in "Device Name", and click the value as shown below to turn ON M3024 forcibly.

Oevice Name			N	13(	)24	1		_				$\sim$		Detai <u>l</u> ed	d Condi	tions	۲	Monitoring
O Buffer <u>M</u> emory	/					ent ≥ N	o.(	<u>U</u> )				Click	Address		~	DEC	$\sim$	<u>S</u> top Monitorin
Device Name	9					4				0	1.1							
M3024	0	0	0	0	0	0	0	0 0	0	1								
//3034	0	0	0	0	0	0	0	0 0	0	0								
//3044	0	0	0	0	10	0	0	0 0	0	0								
M3054	0	0	0	0	6	0	) (	0 0	0	0								
M3064	0	0	0	6	1	1.0	1.0	10	10	0								

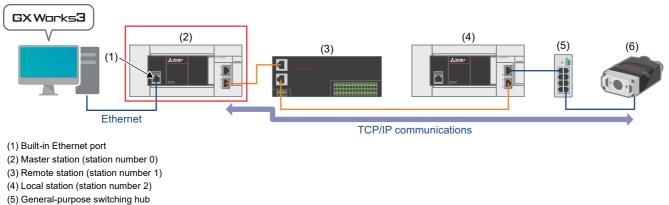
**3.** Check that Y10 LED at the remote station is ON.



# 6.3 Operation Check of the Code Reader (TCP/IP Communications)

This section checks whether communications are performed between the master station and the code reader normally. Configure the system as shown below.

For the communication setting, refer to F Page 18 Communication Settings on GX Works3.

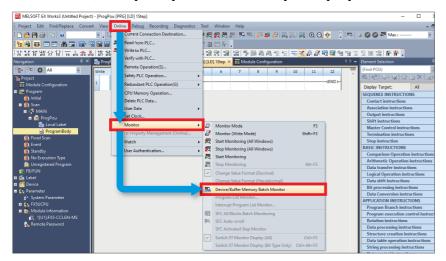


(6) Code reader

1. Place the QR code ( Page 8 Sample QR code for the code reader) in front of the code reader.



2. On GX Works3, select [Online] on the menu bar ⇔ [Monitor] ⇔ [Device/Buffer Memory Batch Monitor].



3. To start reading the QR code by the code reader, perform Steps 1 to 3. D Enter "D1000" in "Device Name". 1 [Device/Buffer Memory Batch Monitor] Monitoring 0 Device Name D1000 O Buffer Memory DEC 🗸 🗸 Intelligent Module No.(U) (HEX) Stop N 1 [Device/Buffer Memory Batch Mor x orl M Device <u>N</u>ame D1000 Click O Buffer N Intelligent Module No.(U)  $\mathrm{DEC} = - \vee$ 0 
 F
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 1 [Device/Buffer Memory Batch Monitor] Mo x Device Name D1000 Click O Buffer Memory Intelligent Module No.(U) DEC 🗸 🗸 0 Stop I F E D C B A 9 8 7 6 5 4 3 1

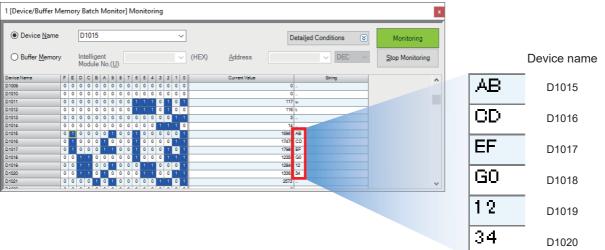
Oclick Image Capturing Trigger Enable (D1000.0). (Change D1000.0 from "0" to "1".)

Click Image Capturing Trigger (D1000.1). (Change D1000.1 from "0" to "1".)

4. Check that Decode Complete (D1002.9) of the code reader has been changed from "0" to "1".

Device <u>N</u> ame		[	D1	000	1	_	_	_	_	_	_	_	_		~				Detail	ed Condition	s	۲	Monitoring
O Buffer Memory					ent e N		<u>U</u> )									(HEX)	Address			V D	EC	$\sim$	Stop Monitoring
Device Name	F	E   C		2   E	A	1	18	12	6	5	4	3	2	1	0		Current Value			String			
D 1000	0	0 1	•	0	0	1	0	0	0	0	٥	0	٥	1					3				
D 1001	0	0 0	1	0	1		1	11	10	0	0	0	D	0	p,				0				
1002	0	0 0	•	0	1			-	0	0	0	0	0	0	0			5	12				
1003	0	0 0	1	0	1			0		7	0	0	٥	٥	0				0_				

5. Check the result read by the code reader. Check that "AB", "CD", "EF", "G0", "12", and "34" are entered in the "String" columns of "D1015" to "D1020".



## 7 TROUBLESHOOTING

## 7.1 Checking Procedure

#### 1. Checking the LED status

Check the communication status with the LEDs of the master station, local station, and code reader.

For the LEDs of the master station, refer to Figure 40 Checking the LEDs of the master station.

For the LEDs of the local station, refer to SP Page 43 Checking the LEDs of the local station.

For the LEDs of the remote station, refer to See Page 45 Checking the LEDs of the remote station.

For the LEDs of the code reader, refer to IP Page 45 Checking the LEDs (indicators) of the code reader.

#### **Point**

If only the ERR LED of the FX5 CPU module is flashing, perform the module diagnostics of the CPU module. For details on the CPU module error codes, refer to the following. Appendix 3 Error Code in the MELSEC iQ-F FX5 User's Manual (Application)

#### 2. Checking the error codes

Check the following according to the error codes stored in the master station, local station, and code reader. For the error codes of the master station and local station, refer to Page 46 Master and local station module diagnostics. For the error codes of the code reader, refer to Page 48 Checking the error details of the code reader.

#### ■Wiring

For the wiring, refer to the following.

- Page 9 System Configuration
- Are the Ethernet cables fully inserted?

#### ■Communication settings

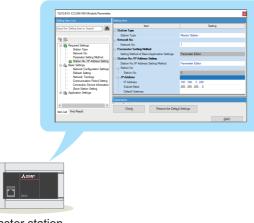
For the communication settings of the master station, refer to IP Page 15 Setting Parameters.

For the communication settings of the local station, refer to 🖙 Page 23 Setting Parameters.

For the communication settings of the remote station, refer to IP Page 25 SETTING REMOTE STATION.

For the communication settings of the code reader, refer to 🖙 Page 27 Setting the Code Reader.

- Do the parameter settings of the master station match with those of the local station on GX Works3?
- · Are the IP addresses and the subnet masks of the master station, local station, and code reader set properly?



Master station Local station

\* After the parameters are changed, reset (or power OFF and ON) the programmable controller to reflect new values.



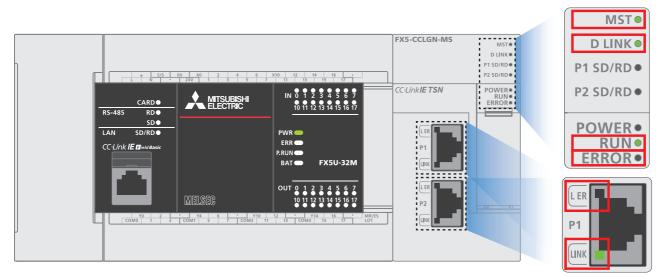


\* After the parameters are changed, power OFF and ON the code reader to reflect new values.

## 7.2 Checking the LED Status

#### Checking the LEDs of the master station

Check error details with the LEDs of the CC-Link IE TSN master/local module (FX5-CCLGN-MS).



#### ■LEDs of the CC-Link IE TSN master/local module

Name	Color	Status	Check item	Action
MST	Green	OFF	Has project data of the master station been written to the FX5 CPU module?	Write the project data of the master station to the FX5 CPU module.
RUN	Green	OFF	Is the FX5-CCLGN-MS mounted correctly?	Securely mount the FX5-CCLGN-MS on the FX5 CPU module.
ERROR	Red	ON or flashing	Does any error occur in the module diagnostics?	Take the actions displayed on the window. □ Page 46 Master and local station module diagnostics
			Is a disconnected station displayed by the CC-Link IE TSN/CC-Link IE Field diagnostics <sup>*1</sup> ?	<ul> <li>Perform the network configuration setting in accordance with the station actually connected.</li> <li>Check the items, which are checked when D LINK LED is OFF or flashing, at the disconnected station.</li> </ul>
			Are RX, RY, RWr, and RWw assigned for the CC- Link IE TSN configuration of the master station?	Check that all the assignment of RX, RY, RWr, and RWw of a station where an error occurs is not blank.
D LINK	Green	OFF or flashing	Is the master station operating normally?	<ul> <li>If an error occurs in the FX5 CPU module on the master station, eliminate the cause of the FX5 CPU module error.</li> <li>If an error occurs in the FX5-CCLGN-MS on the master station, take action according to the module diagnosis procedure.</li> </ul>
			Does the IP address of each station match the "Network Configuration Settings" of the master station?	<ul> <li>Correct the setting of the IP address in "Network Configuration Settings" of the master station.</li> <li>Set IP addresses in a way that does not duplicate the third</li> </ul>
			In the "Network Configuration Settings" of the master station, are the third and fourth octets of the IP address duplicated with those of any other stations?	<ul> <li>to fourth octets of the IP addresses in all stations.</li> <li>Set the IP address and subnet mask to match the network addresses of all stations.</li> <li>Set the third and fourth octets of the IP address to values other than all 0 or all 1.</li> </ul>
			In the "Network Configuration Settings" of the master station, does the network address (the subnet mask part of the IP address) match the master station?	<ul> <li>Set the host section to a value other than all 0 or all 1.</li> <li>Set an address other than some reserved addresses fixed for special purposes as the IP address.</li> </ul>
			Are the third and fourth octets of the IP address set to values other than all 0 or all 1?	
			Is the host section set to a value other than all 0 or all 1?	

Name	Color	Status	Check item	Action
D LINK	Green	OFF or flashing	Is there a reserved address fixed for a special purpose set as the IP address?	<ul> <li>Correct the setting of the IP address in "Network Configuration Settings" of the master station.</li> <li>Set IP addresses in a way that does not duplicate the third to fourth octets of the IP addresses in all stations.</li> <li>Set the IP address and subnet mask to match the network addresses of all stations.</li> <li>Set the third and fourth octets of the IP address to values other than all 0 or all 1.</li> <li>Set the host section to a value other than all 0 or all 1.</li> <li>Set an address other than some reserved addresses fixed for special purposes as the IP address.</li> </ul>
			Do the Ethernet cables conform to the Ethernet standard?	Replace the cables with Ethernet cables which conform to the standard.
		Is the switching hub operating normally?	<ul> <li>Use a switching hub that conforms to the standard.</li> <li>Section 2.3 Performance Specifications in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)</li> <li>Power OFF and ON the switching hub.</li> </ul>	
			Does the station-to-station distance meet the specifications?	Set the station-to-station distance within range. Section 2.3 Performance Specifications in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)
		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 network configured in the ring topology?	Configure the network to avoid the ring topology.
			Has any other station been reset?	<ul> <li>Avoid unnecessary reset since a station is disconnected while resetting.</li> <li>Start other stations.</li> </ul>
			Are other stations turned OFF?	Power ON other stations.
			Are other stations connected to the FX5-CCLGN- MS operating normally?	Execute the CC-Link IE TSN/CC-Link IE Field diagnostics <sup>*1</sup> from the master station to identify the faulty module of another station. After identification, take action by referring to the manual for the relevant module.
			Are other stations set in the network configuration of the master station?	Set connected device stations in the network configuration of the master station.
			Is a type of wiring described in the restrictions in the wiring specifications mistakenly performed?	Correct the wiring. Chapter 6 WIRING in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)
			Are the station numbers duplicated with other stations?	Change the duplicated station number.
			Is the IP address duplicated with another station?	Change the IP address of the duplicated station.
			Are 61 or more device stations connected?	Make adjustment so that the number of connected device stations is within 60.
			Do CC-Link IE TSN devices and Ethernet devices coexist?	Correct the wiring. Chapter 6 WIRING in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)
			Does the IP filter setting mistakenly block communications from the IP address of another station?	Change the IP filter setting parameter to allow communication for the IP address of another station.

Name	Color	Status	Check item	Action
LER	Red	ON	Do the Ethernet cables conform to the Ethernet standard?	<ul> <li>Use an Ethernet cable that conforms to the standard.</li> <li>Section 2.3 Performance Specifications in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)</li> <li>Set the station-to-station distance within range.</li> <li>Section 2.3 Performance Specifications in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)</li> <li>If the Ethernet cable is disconnected, reconnect it.</li> </ul>
			Is the switching hub operating normally?	<ul> <li>Use a switching hub that conforms to the standard.</li> <li>Section 2.3 Performance Specifications in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)</li> <li>Power OFF and ON the switching hub.</li> </ul>
			Is "Module Operation Mode" under "Application Settings" of the master station set to "Online"?	Set "Module Operation Mode" under "Application Settings" of the master station to "Online".
	IK Green OFF		Is there any source of noise near the module or cables?	Change the location of the module or cables.
LINK	Green	OFF	Do the Ethernet cables conform to the Ethernet standard?	Replace the cables with Ethernet cables which conform to the standard.
			Does the station-to-station distance meet the specifications?	Set the station-to-station distance within range. Section 2.3 Performance Specifications in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)
			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 operating normally?	<ul> <li>Use a switching hub that conforms to the standard.</li> <li>Power OFF and ON the switching hub.</li> </ul>
			Are other stations connected to the FX5-CCLGN- MS operating normally?	Take action by referring to the manual for the modules of other stations.
			Is the communication speed of connected devices 1 Gbps?	Connect devices which support a communication speed of 1 Gbps.

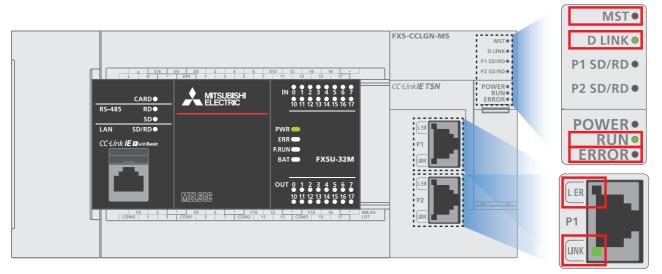
\*1 For details on the CC-Link IE TSN/CC-Link IE Field diagnostics, refer to the following.

For details, refer to the following.

Chapter 10 TROUBLESHOOTING in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)

#### Checking the LEDs of the local station

Check error details with the LEDs of the CC-Link IE TSN master/local module (FX5-CCLGN-MS).



#### ■LEDs of the CC-Link IE TSN master/local module

Name	Color	Status	Check item	Action
MST	Green	ON	Has project data of the local station been written to the FX5 CPU module?	Write the project data of the local station to the FX5 CPU module.
RUN	Green	OFF	Is the FX5-CCLGN-MS mounted correctly?	Securely mount the FX5-CCLGN-MS on the FX5 CPU module.
ERROR	Red	ON or flashing	Does any error occur in the module diagnostics?	Take the actions displayed on the window. □ Page 46 Master and local station module diagnostics
			Is a disconnected station displayed by the CC-Link IE TSN/CC-Link IE Field diagnostics <sup>*1</sup> ?	<ul> <li>Perform the network configuration setting in accordance with the station actually connected.</li> <li>Check the items, which are checked when D LINK LED is OFF or flashing, at the disconnected station.</li> </ul>
			Are RX, RY, RWr, and RWw assigned for the CC- Link IE TSN configuration of the master station?	Check that all the assignment of RX, RY, RWr, and RWw of a station where an error occurs is not blank.
D LINK	Green	OFF or flashing	Is the master station operating normally?	<ul> <li>If an error occurs in the FX5 CPU module on the master station, eliminate the cause of the FX5 CPU module error.</li> <li>If an error occurs in the FX5-CCLGN-MS on the master station, take action according to the module diagnosis procedure.</li> </ul>
			Is the master station connected to the network?	Connect the master station to the network.
			Do the Ethernet cables conform to the Ethernet standard?	Replace the cables with Ethernet cables which conform to the standard.
			Is the switching hub operating normally?	<ul> <li>Use a switching hub that conforms to the standard.</li> <li>Section 2.3 Performance Specifications in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)</li> <li>Power OFF and ON the switching hub.</li> </ul>
			Does the station-to-station distance meet the specifications?	Set the station-to-station distance within range. Section 2.3 Performance Specifications in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)
			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 network configured in the ring topology?	Configure the network to avoid the ring topology.
			Are other stations turned OFF?	Power ON other stations.
			Is the IP address of another station set?	Set an IP address to a device station with no IP address setting.

Name	Color	Status	Check item	Action
D LINK	Green	OFF or flashing	Are other stations set in the network configuration of the master station?	Set connected device stations in the network configuration of the master station.
			Is a type of wiring described in the restrictions in the wiring specifications mistakenly performed?	Correct the wiring. CChapter 6 WIRING in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)
			Are the station numbers duplicated with other stations?	Change the duplicated station number.
			Is the IP address duplicated with another station?	Change the IP address of the duplicated station.
			Are 121 or more device stations connected?	Make adjustment so that the number of connected device stations is within 120.
			Do CC-Link IE TSN devices and Ethernet devices coexist?	Correct the wiring. Chapter 6 WIRING in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)
			Does the IP filter setting mistakenly block communications from the IP address of another station?	Change the IP filter setting parameter to allow communication for the IP address of another station.
LER	Red	ON	Do the Ethernet cables conform to the Ethernet standard?	<ul> <li>Use an Ethernet cable that conforms to the standard.</li> <li>Section 2.3 Performance Specifications in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)</li> <li>Set the station-to-station distance within range.</li> <li>Section 2.3 Performance Specifications in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)</li> <li>If the Ethernet cable is disconnected, reconnect it.</li> </ul>
			Is the switching hub operating normally?	<ul> <li>Use a switching hub that conforms to the standard.</li> <li>Section 2.3 Performance Specifications in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)</li> <li>Power OFF and ON the switching hub.</li> </ul>
			Is "Module Operation Mode" under "Application Settings" of the master station set to "Online"?	Set "Module Operation Mode" under "Application Settings" of the master station to "Online".
			Is there any source of noise near the module or cables?	Change the location of the module or cables.
LINK	Green	OFF	Do the Ethernet cables conform to the Ethernet standard?	Replace the cables with Ethernet cables which conform to the standard.
			Does the station-to-station distance meet the specifications?	Set the station-to-station distance within range. Section 2.3 Performance Specifications in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)
			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> <li>Use a switching hub that conforms to the standard.</li> <li>Power OFF and ON the switching hub.</li> </ul>
			Are other stations connected to the FX5-CCLGN- MS operating normally?	Take action by referring to the manual for the modules of other stations.
			Is the communication speed of connected devices 1 Gbps?	Connect devices which support a communication speed of 1 Gbps.

\*1 For details on the CC-Link IE TSN/CC-Link IE Field diagnostics, refer to the following.

For details, refer to the following.

Chapter 10 TROUBLESHOOTING in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)

#### Checking the LEDs of the remote station

Check error details with the LEDs of the CC-Link IE TSN remote I/O module (NZ2GN2S1-32DT).



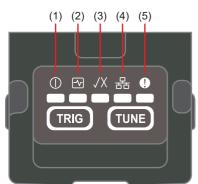


For details, refer to the following.

Chapter 11 TROUBLESHOOTING in the CC-Link IE TSN Remote I/O Module User's Manual (CC-Link IE TSN Communication Mode)

#### Checking the LEDs (indicators) of the code reader

The following shows the display specifications of the indicators.



No.	Indicator name	Display specification
(1)	Power indicator	Green: Powered ON
(2)	Registration status indicator	Green: Code registered Yellow: Code not registered
(3)	Read success/fail indicator	Green: Read succeeded Red: Read failed
(4)	Network status indicator	Yellow (ON): Linking up Yellow (flashing): Transferring data
(5)	Error indicator	Red: Error
		Page 48 Checking the error details of the code reader

They indicate the stage of auto-tuning process: they turn ON in order from the left according to the stage of the process.



For details, refer to the following.

Section 3.3 Indicator Display Specifications in the Code Reader CF26 User's Manual

## 7.3 Checking the Error Details

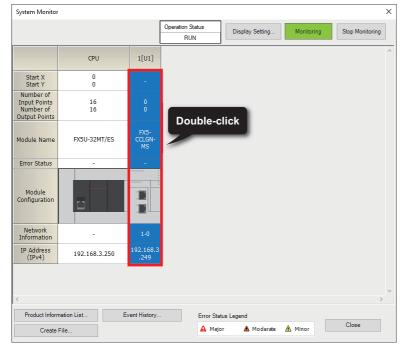
#### Master and local station module diagnostics

This section describes how to check an error occurred in the module and error history, and identify the cause using GX Works3. The detailed information, such as error causes and corrective actions, obtained from GX Works3 is more helpful than those obtained from LEDs.

To execute the module diagnostics, connect a personal computer to the programmable controller.

Page 18 Communication Settings on GX Works3

1. Select [Diagnostics] ⇒ [System Monitor], and double-click "FX5-CCLGN-MS".



2. "Error Information" and "Module Information" of the FX-CCLGN-MS can be checked.

For details on the error codes, refer to Frage 47 List of error codes (master and local stations).

Module [	Diagnost	tics(Intelligent	Module N	lo. 01)				×	Module	le Diagnostics	(Intelligent I	Module No. (	01)				
	1	Model Name FX5-CCLGN-MS		Produc	t No	Supplementary Function CCIET/CCIEF diagnostics	~	Monitoring			odel Name		Product I	No	Supplementary Function CCIET/CCIEF diagnostics	~	Monitoring
		F/W Version 0.110	Booter	F/W Version	H/W Ve	sion	Execute	Stop Monitoring		F/	W Version	Booter F/W	Version	H/W Version		Execute	Stop Monitoring
Error Infor		Module Informatic	in List			Display Format of Error C Decimal	Oode ( ) Hexadecir	nal	Error In		dule Information	n List			Display Format of Error Co	ede () Hexade	cimal
	Occurrer	nce Date 2 13:26:30.337	Sta	Code	Overview	duplication error		Error Jump	LE	tem ED information		Content					
1	2020/02/1	2 13126130.337	4	N H300F	Master station	aupication error		Clear Error		RUN ERROR MST		On: Operatin	r, data link fa g as a master	aulty station being dete r station	med		
									Inc	D LINK P1 SD/RD P2 SD/RD ndividual informat Station Type	tion	Off: Disconne Off: Data not Off: Data not	sent nor rece sent nor rece				
Legen	d 🛕	Major	Mod	lerate 🔥	Ninor			Detail 🔅		NetworkNo. Station Number Transient transm	ission groupNo.	1 0					
			_				_		1	IP address (1st o IP address (2nd	octet)	192 168					
D	etailed In				arameter	Overlapped type information Duplication type information:Master station duplication	-			IP address (3rd IP address (4th MAC address (1 MAC address (2	octet) st octet)	3 249 10 4D					
	Cau	use	Detected th	at there are m	ultiple master sta	tions on the network				MAC address (3 MAC address (4		0 60					
	Correctiv	e Action				The same network. OFF $\rightarrow$ ON or reset all stations that det	ected this error.			MAC address (5 MAC address (6 P1 Communicati	th octet)	F9 BA Disconnected					
										P1 Communicat P2 Communicat		1Gbps					
	Creat	e File						Close		Create Fi	le						Close

Point P

The network status of CC-Link IE TSN can be checked using the CC-Link IE TSN/CC-Link IE Field diagnostics. For how to start the CC-Link IE TSN/CC-Link IE Field diagnostics, refer to the following.

#### List of error codes (master and local stations)

Error code Name **Description and cause** Action 1803H Network Over the number of stations that can be Reduce the number of CC-Link IE TSN Class B devices to eight or configuration error connected. less for each port of the master station. 2160H IP address IP address duplication was detected. Check the IP addresses. duplication error 2220H Parameter error The parameter setting is corrupted. Check the detailed information of the error in "Module Diagnostics" of the engineering tool, and write the displayed parameter. If the same error occurs again, the possible cause is a hardware failure of the module. Please contact your local Mitsubishi representative. 2221H • The set value is out of the range. Or the Network parameter · Check the detailed information of the error in "Module error setting values of the master station and local Diagnostics" of the engineering tool, and correct the parameter stations are not consistent. setting corresponding to the parameter number. · Parameters that are not supported by the · Check the firmware version of the network module. If firmware version of the network module have parameters that are not supported are set, update the firmware been set. version or correct the parameters. 3009H Multiple cycle The result when the value set in Check the detailed information in "Module Diagnostics" of the setting error "Communication Period Interval Setting" in engineering tool. Correct the parameter settings described below "Communication Period Setting" under "Basic so that the result when the value set in "Communication Period Settings" of the master station is multiplied by Interval Setting" in "Communication Period Setting" under "Basic "Communication Period Setting" of the device Settings" of the master station is multiplied by "Communication Period Setting" of the device station set in "Network Configuration station set in "Network Configuration Settings" under "Basic Settings" is out of the range. Settings" under "Basic Settings" becomes within 16ms. • "Communication Period Interval Setting" in "Basic Settings" • "Communication Period Setting" of the relevant device station in "Network Configuration Settings" Set a value to "Communication Period Setting" of device stations by selecting a multiple value on "Multiple Period Setting" of "Communication Period Setting" under "Basic Settings". 300AH · The combination of the local station firmware · Check the firmware versions of the master station and local Network parameter version and the master station firmware station. If the combination is incorrect, update the firmware error version of the older local station or that of the master station. version is incorrect. · The set value is out of the range. Or the · Check the detailed information of the error in "Module setting values of the master station and local Diagnostics" of the engineering tool, and correct the parameter stations are not consistent. setting of the master station corresponding to the parameter number. If the same error occurs again, the possible cause is a hardware failure of the module. Please contact your local Mitsubishi representative. 300FH Multiple master stations were detected in the Master station · Connect only one master station on the same network. duplication network · After taking the above action, power OFF and ON or reset all detection stations where the error was detected. The value set in "Communication Period 3010H Communication Set the value of "Communication Period Interval Setting" as a period interval Interval Setting" in "Communication Period value equal to or larger than the value in the detailed information setting error Setting" under "Basic Settings" of the master displayed in "Module Diagnostics" using "Communication Period station is smaller than the communication cycle Setting" under "Basic Settings" of the master station. interval calculated by the number of stations and points of device stations that was set in "Network Configuration Settings" under "Basic Settinas". 3011H Cyclic transmission The value set in "Cyclic transmission time" in Set the value of "Cyclic Transmission Time" as a value equal to or time error "Communication Period Setting" under "Basic larger than the value in the detailed information displayed in "Module Diagnostics" using "Communication Period Setting" under Settings" of the master station is smaller than the cyclic transmission time calculated by the "Basic Settings" of the master station. number of stations and points of device stations set in "Network Configuration Settings" under "Basic Settings". 3013H The value set in "Transient Transmission Time" Set "Communication Period Interval Setting" and "Cyclic Transient transmission time in "Communication Period Setting" under "Basic Transmission Time" so that the value of "Transient Transmission Time" in "Communication Period Setting" under "Basic Settings" of error Settings" of the master station is smaller than the transient transmission time calculated using the master station is equal to or larger than the value shown in the the number of stations and the points of device detailed information displayed in "Module Diagnostics". stations set in "Network Configuration Settings' under "Basic Settings".

Error code	Name	Description and cause	Action
3014H	Multiple cycle setting error	When "Communication Mode" under "Application Settings" of the master station is set to "Multicast", in the "Network Configuration Settings" of the "Basic Settings", "Communication Period Setting" of the local station is set to "Normal Speed" or "Low- Speed".	<ul> <li>Set "Communication Mode" in "Application Settings" of the master station to "Unicast".</li> <li>In "Network Configuration Settings" under "Basic Settings" of the master station, set "Communication Period Setting" of the local station to "Basic Period".</li> </ul>
3015H	Communication period interval setting error	The value set in "Communication Period Interval Setting" in "Communication Period Setting" under "Basic Settings" of the master station is smaller than the communication cycle interval calculated by the number of stations and points of device stations that was set in "Network Configuration Settings" under "Basic Settings".	Set the value of "Communication Period Interval Setting" as a value equal to or larger than the value of "Communication Period Interval (Calculation value) [ $\mu$ s]" (SW0072) of a local station using "Communication Period Setting" under "Basic Settings" of the master station.
3017H	Cyclic transmission time error	The value set in "Cyclic transmission time" in "Communication Period Setting" under "Basic Settings" of the master station is smaller than the cyclic transmission time calculated by the number of stations and points of device stations set in "Network Configuration Settings" under "Basic Settings".	Set the value of "Cyclic Transmission Time" as a value equal to or larger than the value of "Cyclic Transmission Time (Calculation value) [µs]" (SW0073) of a local station using "Communication Period Setting" under "Basic Settings" of the master station.
3018H	Transient transmission time error	The value set in "Transient Transmission Time" in "Communication Period Setting" under "Basic Settings" of the master station is smaller than the transient transmission time calculated using the number of stations and the points of device stations set in "Network Configuration Settings" under "Basic Settings".	Set "Communication Period Interval Setting" and "Cyclic Transmission Time" so that the value of "Transient Transmission Time" in "Communication Period Setting" under "Basic Settings" of the master station is equal to or larger than the value of "Transient Transmission Time (Calculation value) [ $\mu$ s]" (SW0078) of a local station.
3021H	Device station IP address duplication error	At startup of data link, IP address duplication among device stations has been detected.	Correct the IP addresses of the device stations.
3135H	Network configuration error	Over the number of stations that can be connected.	Reduce the number of CC-Link IE TSN Class B devices to eight or less for each port of the master station.
3136H	Illegal ring topology	An illegal ring topology was detected.	Set a line topology or star topology, and turn OFF and ON or reset all stations.

For details, refer to the following.

Section 10.5 Function List in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)

#### Checking the error details of the code reader

If an error indicator turns ON or the code reader CF26 does not operate properly, check the error on the "Device Log" window of DataMan Setup Tool.

#### (Error example)

A "Buffer Overflow" error is occurring.

😡   🗲 💻 📔   C	)	Pane Tools	
Home Actions	Settings System	View Device Log	
	0 x		
Back Forward R	efresh Delete Device Log		
History	Device Log		
© ∞ GF26-xxxxx Ø			
Device L	og		
Application T Undefined	. 01/0	1/70 04:07:23.600555 Clearing log. 1/70 04:07:24.558224 Could not start acquisiti 1/70 04:07:24.560005 Buffer Overflow, trigger	
	01/0	1/70 04:07:25.619298 Device log downloaded.	

The error is displayed in red.

For details, refer to the following.

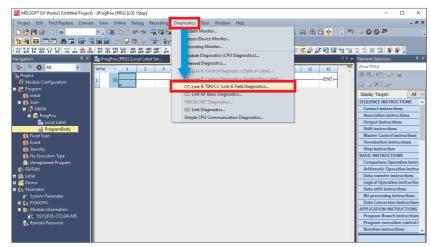
Chapter 9 TROUBLESHOOTING in the Code Reader CF26 User's Manual

## APPENDICES

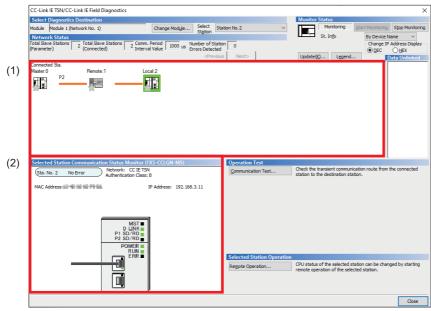
### Appendix 1 CC-Link IE TSN/CC-Link IE Field Diagnostics

This section describes how to start CC-Link IE TSN/CC-Link IE Field diagnostics.

1. Select [Diagnostics] on the menu bar of GX Works3 ⇔ [CC-Link IE TSN/CC-Link IE Field Diagnostics].



2. The "CC-Link IE TSN/CC-Link IE Field Diagnostics" window appears. Select a station whose connection status to be checked. When a local station is selected, the "CC-Link IE TSN/CC-Link IE Field Diagnostics" window is as shown below.



In this manual, "authentication Class" is referred to as "CC-Link IE TSN Class".

#### Point P

The items below can be checked on the "CC-Link IE TSN/CC-Link IE Field Diagnostics" window. (1) Network map

The connection status of each station is reflected in real time.

(2) Selected station communication status monitor

The connection status of a selected station is checked in real time.

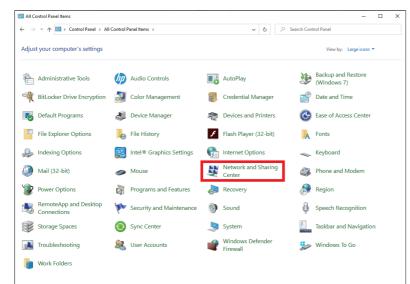
For details, refer to the following.

Section 10.3 Checking the Network Status in the MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN)

# Appendix 2 Setting an IP Address of the Personal Computer

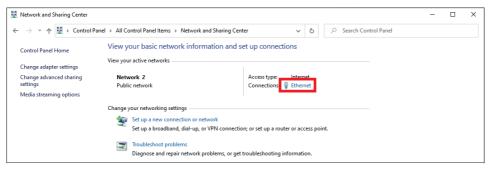
This section describes the IP address setting of the personal computer with Windows® 10.

1. Select [Network and Sharing Center] on Control Panel in Windows 10<sup>®</sup>.



2. Select [Ethernet\*] for "Unidentified Network".

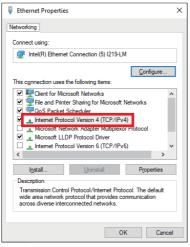
\* Select a different network depending on the personal computer environment.



**3.** Click the [Properties] button.

Ethernet Status			×
General			
Connection			-
IPv4 Connectivity:		Internet	
IPv6 Connectivity:		No network access	
Media State:		Enabled	
Duration:		00:41:56	
Speed:		1.0 Gbps	
Details			
Activity			
	Sent —	Received	
Bytes:	75,687,552	13,216,424	
Properties	Disable	Diagnose	
		Close	

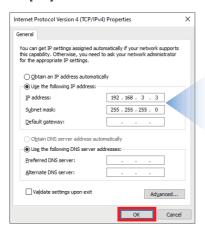
4. Double-click [Internet Protocol Version 4 (TCP/Pv4)].



**5.** Select the "Use the following IP address" checkbox.

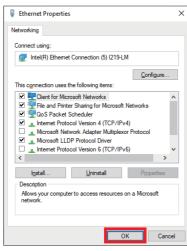
Internet Protocol Version 4 (TCP/IPv4) Properties					×	
General						
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.						
O Obtain an IP address automatical	у					
Use the following IP address: IP address:					]	
Sybnet mask:						
Default gateway:						
Obtain DNS server address automatically						
Use the following DNS server addresses:						
Preferred DNS server:						
Alternate DNS server:				1		
Ualidate settings upon exit				Ad <u>v</u> a	inced	
			ОК		Cancel	

6. Enter "IP address" ( Page 9 System Configuration) and "Subnet mask" ( Page 9 System Configuration), and click the [OK] button.



IP address:	192.168.3.3
Subnet mask:	255.255.255.0

#### 7. Click the [OK] button.



8. Click the [Close] button.

Ethernet Status	>
General	
Connection	
IPv4 Connectivity:	No network access
IPv6 Connectivity:	No network access
Media State:	Enabled
Duration:	00:15:47
Speed:	1.0 Gbps
Details	
Activity	
Sent	— 駴 — Received
Bytes: 9,94	5,824 424,809,911
Properties Disa	ble Diagnose
	Close

**9.** Click "×" to close the control panel.

🕎 Network and Sharing Center			- 🗆 🖂
← → × ↑ 💆 > Control Pa	nel > All Control Panel Items > Network and Sh	aring Center 🗸 👌 🔎 Search Control Panel	
Control Panel Home	View your basic network informatio	on and set up connections	
Change adapter settings	View your active networks		
Change advanced sharing settings	<b>ad.melco.co.jp</b> Domain network	Access type: No network access Connections: Fethernet	
Media streaming options			
	Change your networking settings		
	Set up a new connection or network Set up a broadband, dial-up, or VPN	connection; or set up a router or access point.	
	Troubleshoot problems Diagnose and repair network problem	ms, or get troubleshooting information.	

## REVISIONS

Revision date	Version	Description
July 2020	A	First edition
December 2022	В	Modified part Front cover, INTRODUCTION, RELEVANT MANUALS, TERMS, KEY FEATURES, Section 1.3, 2.3, 2.4, 7.2, 7.3, Appendix 1, TRADEMARKS

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