



Programmable Controllers
MELSEC iQ-R
series



Ezi-SERVO® CC-Link IE TSN
Closed Loop Stepping System **ALL**

Connection Guide

MELSEC iQ-R RD78G (H) and **Ezi-SERVO**® CC-Link IE TSN
Closed Loop Stepping System **ALL**

Mitsubishi Electric Products
RD78G4 / RD78G8 / RD78G16
RD78G32 / RD78G64
RD78G4HV / RD78GHW

FASTECH Products
Ezi-SERVO CC-Link IE TSN ALL

Before you begin

- Thank you for using our company's products.
- The Ezi-SERVO CC-Link IE TSN ALL is a stepping motor unit consisting of a driver equipped with a 32-bit high-performance ARM processor and various motors. It is used as a remote station in a CC-Link IE TSN network.
- Ezi-SERVO CC-Link IE TSN ALL is an industrial product. Do not use it for any other purpose. Our company shall not be liable for any damages incurred due to non-compliance with this instruction.
- This connection guide provided by our company explains how to connect the Ezi-SERVO CC-Link IE TSN ALL to Mitsubishi Electric's MELSEC iQ-R RD78G(H). It covers CSP+ file registration, system configuration, parameter settings, and programming methods.
- Before writing the PLC program, please be sure to read this connection guide, understand its contents accurately, and use the product correctly.
- This connection guide is subject to change without notice. For the latest version, please refer to our company's CC-Link IE TSN website (<https://cltsn.fastech-motions.com/en>).

Manual Information

- The Ezi-SERVO CC-Link IE TSN ALL manual can be downloaded from the FASTECH website.
<https://cltsn.fastech-motions.com/en/download/quick>

Manual Name	Manual Number
[Manual][CC-Link IE TSN][Ezi-SERVO ALL] Closed Loop Stepping System	
[Connection Guide][CC-Link IE TSN][MELSEC iQ-R RD78G(H)][Ezi-SERVO ALL]	

- The MELSEC iQ-R RD78G(H) manual can be downloaded from the Mitsubishi Electric website.
<https://www.mitsubishielectric.com/fa/index.html>

Manual Name	Manual Number
MELSEC iQ-R Motion Unit User's Manual (Startup Edition)	IB-0300405
MELSEC iQ-R Motion Unit User's Manual (Application Edition)	IB-0300410
MELSEC iQ-R Motion Unit User's Manual (Network Edition)	IB-0300425
MELSEC iQ-R Programming Manual (Motion Unit Instructions/General-Purpose FUN/General-Purpose FB Edition)	IB-0300430
MELSEC iQ-R Programming Manual (Motion Control FB Edition)	IB-0300532
MELSEC iQ-R Motion Unit User's Manual (Simple Motion Mode Applications Edition)	IB-0300571
MELSEC iQ-R Motion Unit User's Manual (Simple Motion Mode Advanced Synchronous Control Edition)	IB-0300574
GX Works3 Operating Manual	SH-081214

Terminology

- This section covers terms used in the connection guide.

Terminology	Description
CC-Link IE TSN	An open network that adopts 'TSN (Time-Sensitive Networking)', an extension of the standard Ethernet specification, enabling simultaneous processing of real-time control and information from other open networks.
Master station (Manager station)	This station manages the entire network and can perform cyclic and transient transmission with all stations. The MELSEC iQ-R RD78G(H) corresponds to this station.
Remote station	A station that performs cyclic transmission of bit-level I/O signals and word-level I/O data, also capable of transient transmission. The Ezi-SERVO CC-Link IE TSN ALL corresponds to this.
PDO	Abbreviation for Process Data Object. A collection of application objects periodically transmitted between multiple CANopen nodes.
Object	Various data held by device stations corresponding to CANopen.

Table of Contents

1. Overview

- 1-1. Overview
- 1-2. Ezi-SERVO CC-Link IE TSN ALL CSP+ File Registration
- 1-3. CC-Link IE TSN Configuration
- 1-4. Setup Sequence
- 1-5. Restrictions

2. RD78G(H) Settings

- 2-1. Project Creation
- 2-2. Module Registration
- 2-3. Module Configuration – H/W
- 2-4. Parameter / Module Information / 0000:RD78G4
- 2-5. Module Extended Parameter – Motion Control
Setting Function
- 2-6. Convert
- 2-7. Write to PLC

3. Follow the Program

- 3-1. Exploring Motion Control Commands
- 3-2. [Ladder] SERVO Enable, SERVO ON
- 3-3. [Ladder] Specifying the homing method
- 3-4. [Ladder] Execute Ezi-SERVO homing
- 3-5. [Ladder] Execute Ezi-SERVO Operation
- 3-6. [Ladder] Execute Ezi-SERVO DIO Operation
- 3-7. [Ladder] Convert

Appendix

- [Operation Verification] Axis Monitor
- [Operation Verification] Changing the Homing Method
- [Operation Verification] Homing
- [Operation Verification] Jog Operation
- [Operation Verification] Troubleshooting
- [Parameter] Homing Parameter Settings

1. Overview

1-1. Overview

- **MELSEC iQ-R RD78G(H) and Ezi-SERVO CC-Link IE TSN ALL Connection Guide**

- ◆ **Master station: RD78G4 (4-axis) / RD78G8 (8-axis) / RD78G16 (16-axis) / RD78G32 (32-axis) / RD78G64 (64-axis)**

RD78G4HV (128-axis) / RD78GHW (256-axis)

- PLCopen® Motion Control FB (Function Block)**

- Control programs can be easily written using the PLCopen Motion Control FB library, an international standard specification.
- This program allows third parties to easily understand its contents, significantly reducing design and maintenance time.

- ◆ **Engineering software**

- GX Works3: Ver. 1.105K or later
- Motion control setting function: Ver. 1.055H or later
- ※ For the latest files, please refer to the Mitsubishi Electric website.

<https://www.mitsubishielectric.com/fa/download/index.html>

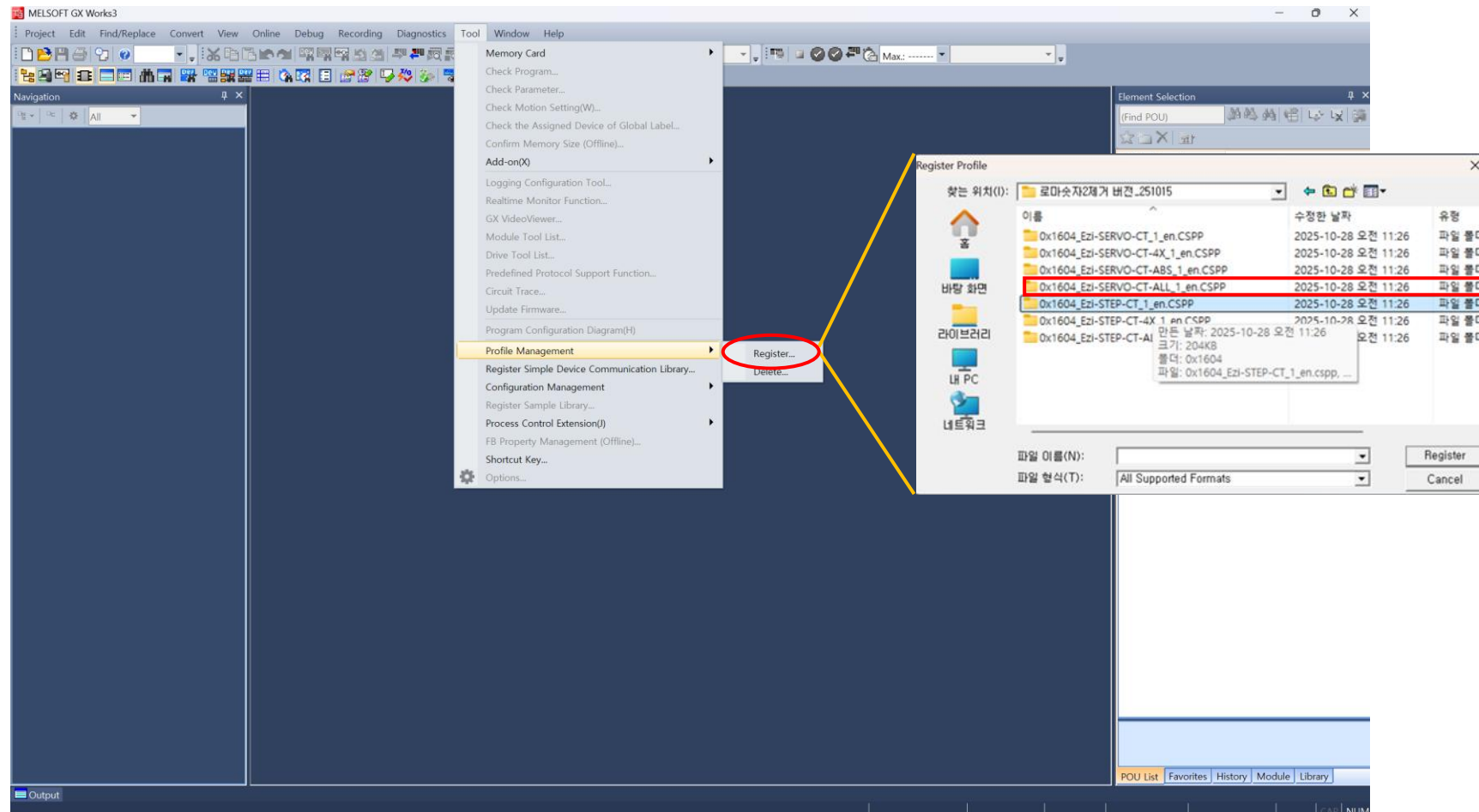
- ◆ **Remote station: Ezi-SERVO CC-Link IE TSN ALL**

- CSP+ File Download address: <https://cltsn.fastech-motions.com/en/download/quick>
- File Name: 0x1604_Ezi-SERVO-CT_ALL_1_en_CSPP

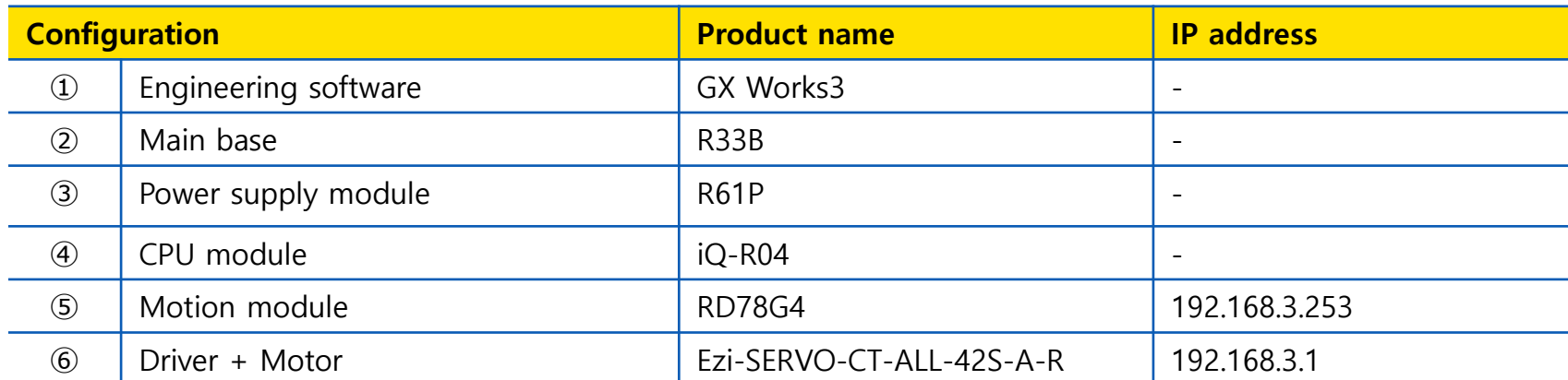
1-2. Ezi-SERVO CC-Link IE TSN ALL CSP+ File Registration

● CSP+ Registration

- [GX Works3] Tool / Profile Management / Register ※ Registration is only possible before opening a project.



- **System Configuration**



1-3. CC-Link IE TSN Configuration

- **Ezi-SERVO Specifications**

Item		Specifications
Communication protocol		CC-Link IE TSN Class B
Communication speed		1Gbps / 100Mbps
Modes of operation		CiA402 drive profile: cyclic Synchronous position Mode (CSP) / Profile position mode (PP) / Homing mode (HM)
Synchronizat ion method	Time synchronization method	IEEE1588 / IEEE802.1AS
	Communication cycle	Minimum 250 μ s
	Network synchronization communication	Synchronous Communication (CSP, PP, HM) / Asynchronous Communication (PP, HM)
Encoder type		Incremental type

1-4. Setup Sequence

- Ezi-SERVO, RD78G(H) Parameter Settings

No.	Item	Description
1	Ezi-SERVO Settings 	Configure parameters using the driver configuration program (Ezi-CT Manager). Please download the configuration program and its usage guide from the FASTECH Co., Ltd. website. ※ Address: https://cltsn.fastech-motions.com/en/download/quick
2	RD78G(H) Configuration 	Create an RD78G(H) project using GX-Works3, then configure the unit parameters (communication method, connection target) and axis parameters (for motion control).
3	RD78G(H) + Ezi-SERVO Operation Verification 	Write a program to verify that the RD78G(H) and Ezi-SERVO are configured correctly. Manipulate labels to verify the motor operates normally.

1-4. Setup Sequence

● Ezi-SERVO Setup Notes

Item	Details
IP address setting	① Set using the driver's rotary switch ② Rotary Switch → Setting value: '00', IP address (Index: 2101h, Subindex: 01~04h)
Driver homing method setting	① Set the homing method (Index: 6098h, Subindex: 00h) - Set homing method: '0' (default) → '33', etc. ※ Refer to [Appendix] Homing Method ② Home offset (Index: 607Ch, Subindex:00h) → Set to '0' Caution) Setting a value other than 0 may cause rapid acceleration or deceleration upon homing completion.
Limit stop method setting	① Limit stop method (Index:2003h, Subindex:00h) setting - 0: PP, HM → Quick stop / CSP → No stop - 1: PP, HM → Deceleration stop / CSP → Does not stop ② Setting a value other than '0' or '1' may cause '1ED0H: Drive error' when detecting the hardware stroke limit.
In-position range	① In-position range (Index:2B21h, Subindex:00h, Data type:Unsigned32) setting - Register a value within the In-position range (5 to 20000 pulses) considering the operating environment ② If [Md.102: Deviation counter value] is less than the setting value, [Md.108: Servo status 1: In-position] turns ON. As a rule, this object should not be made public. Please configure it using the servo transient transmission function of the FX5 CPU module.

1-5. Restrictions

● Motion Control Function Restrictions (RD78G(H) and Ezi-SERVO)

Item	Restriction
Torque limit function	The driver does not support the following object, so the Torque limit function cannot be used. • Positive torque limit value (Index:60E0h, Subindex:00h) • Negative torque limit value (Index:60E1h, Subindex:00h)
Absolute position system	The encoder is of the incremental type, so the absolute position system cannot be used.
Virtual servo amplifier function	Emulated by MR-J5-G.
Mark detection function	TPR1 (Touch Probe 1) of the driver cannot be used for [Pr.800: Mark detection signal setting].
Optional data monitor function	When using the optional data monitor function, set the objects to monitor in [Pr.91~94: Optional data monitor: Data type setting 1~4] and [Pr.591~594: Optional data monitor: Data type expansion setting 1~4]. The default value is "0: Not set". Therefore, [Md.109~112: Optional data monitor output 1~4] will be '0'.

1-5. Restrictions

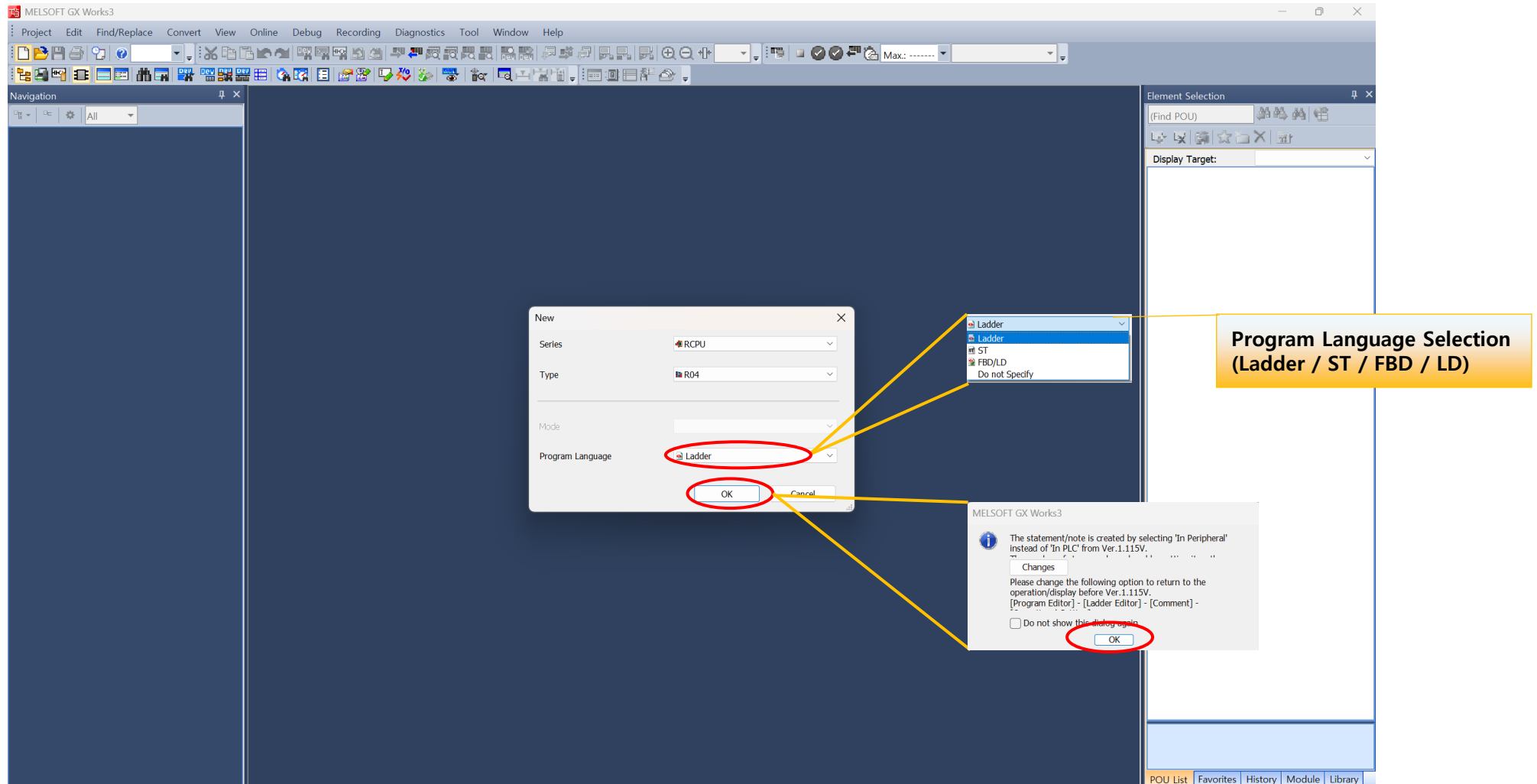
● Motion Control Function Restrictions (RD78G(H) and Ezi-SERVO)

Item	Restriction
Md.103: Motor rotation speed	Since the driver does not support 'SI unit velocity (Index:60A9h, Subindex:00h)', it outputs the motor rotation speed in pulses per second.
Md.104: Motor current value	Since the driver does not support 'Torque actual value (Index:6077h, Subindex:00h)', it always displays "0".
Md.108: Servo status 1	The following bits in the monitor data are always in the 'OFF' state. · Gain switching (b4) · Fully closed control switching (b5) · Torque limit active (b13) · Absolute position lost (b14) · Servo warning (b15)
Md.119: Servo status 2	The following bits in the monitor data are always in the 'OFF' state. · Zero point pass (b0) · Zero speed (b3) · Speed limit active (b4) · PID control active (b8)
Md.115: Servo alarm detail number	Not supported. This monitor data is always displayed as '0'.
Cd.108: Gain switching command flag	Not supported. Only MELSERVO responds to this data.
Cd.133: Semi/Fully closed loop switching request	Not supported. Only MELSERVO responds to this data.
Cd.136: PI-PID switching request	Not supported. Only MELSERVO supports this data.

2. RD78G(H) Settings

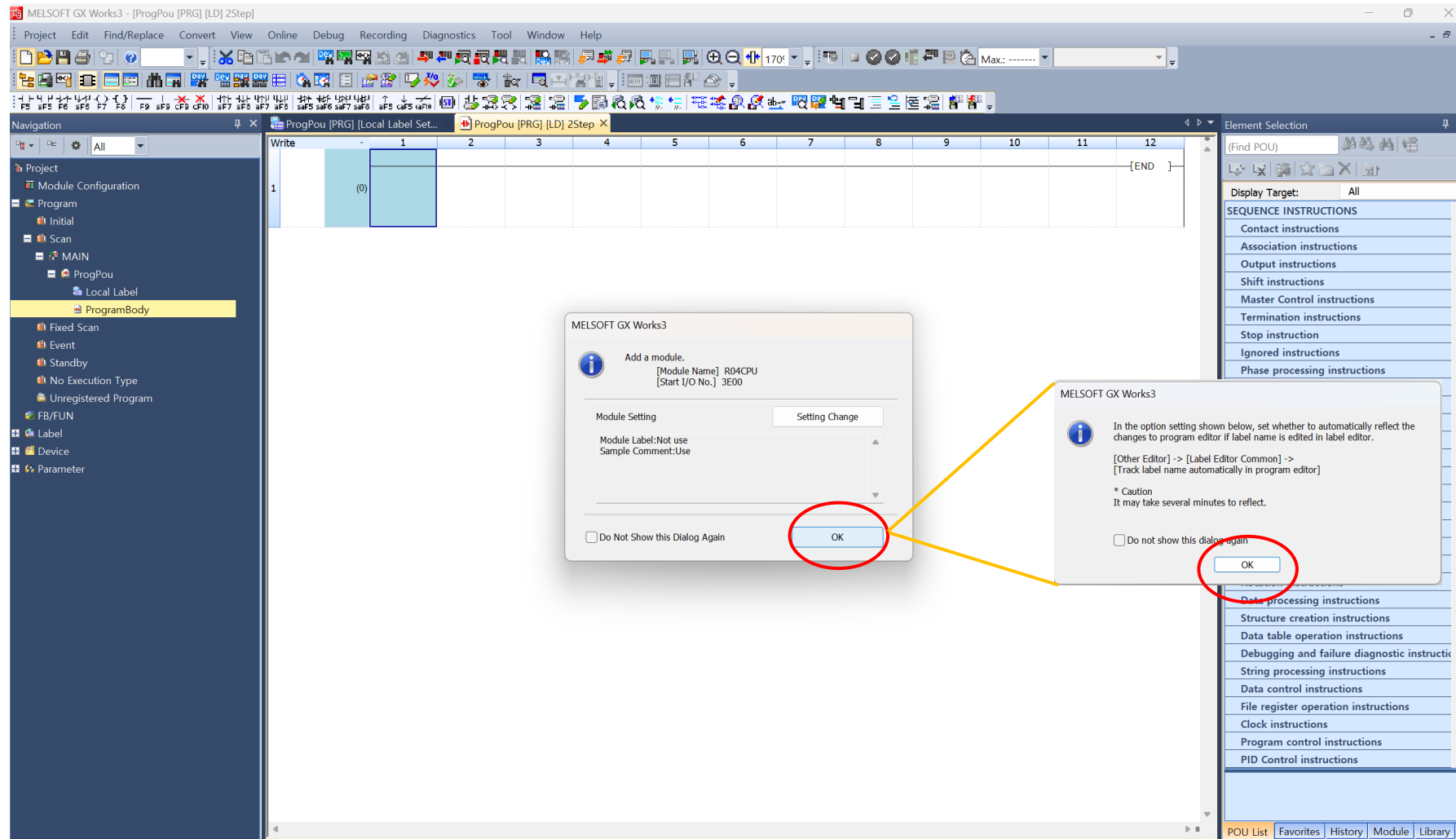
2-1. Project Creation

- When creating a new project, select iQ-R RD78G(H), model name, number of axes used, and program language



2-2. Module Registration

- iQ-R CPU Registration



2-3. Module Configuration – H/W

- Configure the Main Base, CPU Module, and Power Supply by clicking and dragging with the mouse

1

2 Mouse Click & Drag

3

4

5

[Click & Drag]
1. Main Base
2. Power Supply
3. CPU iQ-R Mounted
4. RD78(H) Installed

MELSOFT GX Works3 (Untitled Project) - [Module Configuration]

Project Edit Find/Replace Convert View Online Debug Recording Diagnostics Tool Window Help

Navigation

Project

Module Configuration

Program

Initial

Scan

MAIN

ProgPou

Local Label

ProgramBody

Fixed Scan

Fixed

Type

Program

Element Selection

(Find POU)

Display Target: All

iQ-R Series

Main Base

R32SB 2 Slots(Type require

R33B 3 Slots(Type require

R33SB 3 Slots(Type require

R35B 5 Slots (Type require

SIL2 Process CPU

Safety CPU

C Controller

MELSECWinCPU

Head Module

Motion CPU

NCCPU

Robot CPU

Power Supply

R61SP 2.5A output (Slim typ

R62P 3.5A output

R61P 6.5A output

R63P 6.5A output

NC Dedicated Module

Sensor Control

Analog Input

Analog Output

Temperature Input

Temperature Control Module

Motion Module

RD78G4 4 axes CC-Link IE TSN

RD78G4(S) 4 axes CC-Link IE TSN

RD78G8 8 axes CC-Link IE TSN

RD78G8(S) 8 axes CC-Link IE TSN

Network Module

Blank Cover

POU List Favorites History Module Library

MELSOFT GX Works3

When you finish editing Module Configuration, fix the parameters to reflect to their respective functions.

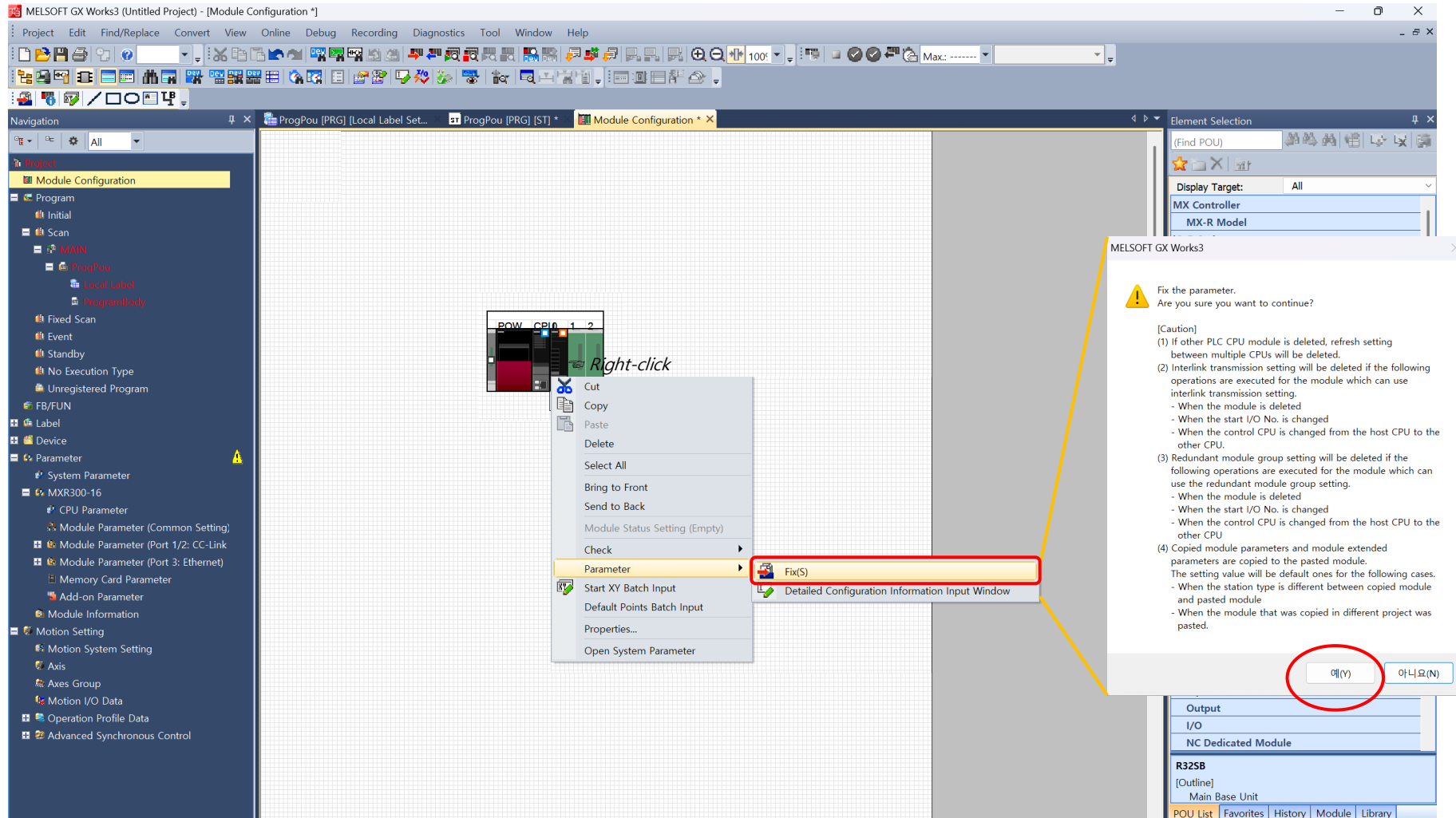
☐ Do not show this dialog again.

You are able to change this setting through the Options menu.

OK

2-3. Module Configuration – H/W

- Right-click the mouse and select Fix(S) to complete module configuration



2-4. Parameter / Module Information / 0000:RD78G4

- **Module Parameter (Network): Station No., IP Address Setting**

MELSOFT GX Works3 (Untitled Project) - [0000:RD78G4 Module Parameter]

Navigation: Project, Edit, Find/Replace, Convert, View, Online, Debug, Recording, Diagnostics, Tool, Window, Help

Setting Item List: Input the Setting Item to Search

Setting Item:

Item	Setting
Station Type	Master Station
Network No.	1
Station No./IP Address Setting	
Station No.	0
IP Address Setting	192.168.3.253
IP Address	
Subnet Mask	
Default Gateway	

Explanation: Set the station type.

Check Restore the Default

Apply

POU List Favorites History Module Library

1 Module Parameter (Network)

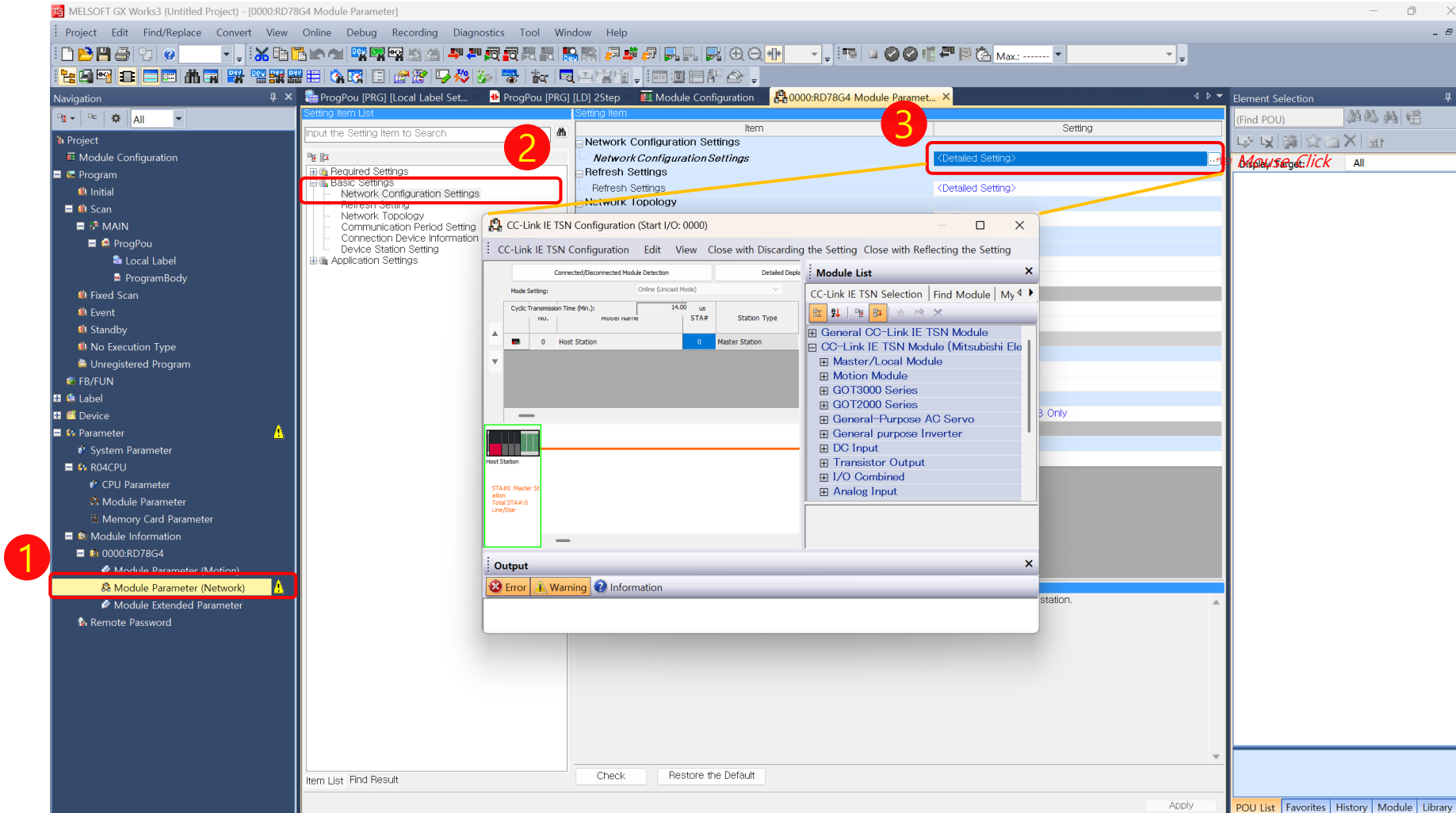
2 Station Type

3 Network No. : 1

IP Address: 192.168.3.253
※ Note: Ezi-SERVO CC-Link IE TSN ALL
Default IP is 192.168.3.xxx

2-4. Parameter / Module Information / 0000:RD78G4

- **Module Parameter (Network): Basic Settings / Network Configuration Settings**



- **Network Disconnected State: Configure the CC-Link IE TSN Module **Manually** (Click & Drag)**

2-4. Parameter / Module Information / 0000:RD78G4

- CC-Link IE TSN Configuration: Select Module as Motion Control Station and Synchronous

The screenshot displays the 'CC-Link IE TSN Configuration' software window. The main table lists modules with columns for 'Motion Control Station', 'Points', 'Communication Period Interval (Min.)', 'PDO Mapping Setting', 'IP Address', 'Subnet Mask', 'Default Gateway', 'Reserved/Error Invalid Station', 'Network Synchronous Communication', and 'Communication Period Setting'. A red box labeled '1' highlights the 'Motion Control Station' column for the 'Ezi-SERVO-ALL-CT' module. A red box labeled '2' highlights the 'Network Synchronous Communication' dropdown menu, which is set to 'Synchronous'. A yellow callout box points to the 'Synchronous Selection' dropdown. The 'Module List' panel on the right shows the 'CC-Link IE TSN Module (Mitsubishi Electric)' expanded, with 'Ezi-SERVO-CT' selected under 'Closed-loop Step Drive'. The bottom status bar shows the 'Host Station' and 'Ezi-SERVO-CT-ALL' modules.

CC-Link IE TSN Configuration (Start I/O: 0000)

CC-Link IE TSN Configuration Edit View Close with Discarding the Setting Close with Reflecting the Setting

Mode Setting: Online (Unicast Mode) Assignment Method:

Module	Motion Control Station	Points	Points	Points	Points	PDO Mapping Setting	IP Address	Subnet Mask	Default Gateway	Reserved/Error Invalid Station	Network Synchronous Communication	Communication Period Setting
0 Host Station							192.168.3.253					
1 Ezi-SERVO-ALL-CT	☒		16	16		<Detail Setting>	192.168.3.17			No Setting	Asynchronous	Basic Period
2 Ezi-SERVO-ALL-CT	☒		16	16		<Detail Setting>	192.168.3.18			No Setting	Synchronous	Basic Period
3 Ezi-SERVO-ALL-CT	☒		16	16		<Detail Setting>	192.168.3.19			No Setting	Asynchronous	Basic Period

1 Motion Control Station - Check (mouse click)

2 Synchronous Selection

Module List

CC-Link IE TSN Selection Find Module My 4

General CC-Link IE TSN Module

CC-Link IE TSN Module (Mitsubishi Electric)

Master/Local Module

Motion Module

GOT3000 Series

GOT2000 Series

General-Purpose AC Servo

General-purpose Inverter

DC Input

Transistor Output

I/O Combined

Analog Input

Analog Output

EnergyMeasuringUnit

Bridge module

FPGA module

CC-Link IE TSN Module (FASTECH Co. Ltd.)

Closed-loop Step Drive

Ezi-SERVO-CT Closed-Loop

Open-loop Step Drive

Ezi-STEP-CT Open-Loop

[Outline]
Step Drive
[Specification]
Open-Loop Step Drive
Motor: Max. NEMA 24
Mode: Homing, OSP, FP
CC-Link IE TSN Class B
[Manufacturer Name]
FASTECH Co. Ltd.
[Station Type]
Remote Station

2-4. Parameter / Module Information / 0000:RD78G4

- CC-Link IE TSN Configuration: Module PDO Mapping Setting (Per-Axis Setting)

CC-Link IE TSN Configuration (Start I/O: 0000)

CC-Link IE TSN Configuration Edit View Close with Discarding the Setting Close with Reflecting the Setting

Mode Setting: Online (Unicast Mode) Assignment Method:

No.	Model Name	STA#	Station Type	RX Setting Points	RY Setting Points	RW Setting Points	RWw Setting Points	Parameter Automatic Setting	PDO Mapping Setting	IP Address	Subnet Mask	Default Gateway
0	Host Station	0	Master Station							192.168.3.253		
1	Esi-SERVO-ALL-CT	1	Remote Station			16	16		<Detail Setting>	192.168.3.17		
2	Esi-SERVO-ALL-CT	2	Remote Station			16	16		<Detail Setting>	192.168.3.18		
3	Esi-SERVO-ALL-CT	3	Remote Station			16	16		<Detail Setting>	192.168.3.19		

Generated upon registration

PDO Mapping Setting

Link Device Points

PDO Mapping Parameter

PDO Mapping Pattern Selection (1/2)

Please select the TPDO mapping pattern assigned in link device (RW).

Link Device (RW) Points: 16

No.	Pattern Name	Used Points
1	1st TPDO (CSP Mode)	8 Points
2	2nd TPDO (ProfilePosition Mode)	10 Points

PDO Mapping Pattern Selection (2/2)

Please select the RPDO mapping pattern assigned in link device (RW).

Link Device (RW) Points: 16

No.	Pattern Name	Used Points
1	1st RPDO (CSP Mode)	7 Points
2	2nd RPDO (ProfilePosition Mode)	13 Points

[Outline]
Step Drive
[Specification]
Closed-Loop Step Drive
Motor: Max. NEMA 24
Mode: Homing, CSP, PP
CC-Link IE TSN Class B
[Manufacturer Name]
FASTECH Co. Ltd
[Station Type]
Remote Station

Network Label

Output

Error:0 Warning:0 Information:0

2-4. Parameter / Module Information / 0000:RD78G4

- CC-Link IE TSN Configuration: Module PDO Mapping Setting (Per-Axis Setting)

The screenshot displays the 'CC-Link IE TSN Configuration' software interface. The main window shows a table of modules with columns for No., Model Name, STA#, Station Type, RX Setting, RY Setting, RW Setting, Parameter Automatic Setting, PDO Mapping Setting, IP Address, Subnet Mask, and Default Gateway. A red box highlights the '<Detail Setting>' button in the PDO Mapping Setting column for STA# 1. An orange callout box points to this button with the text: 'Turns black when PDO settings are complete <Detail Setting> → <Detail Setting> Repeat to configure PDO settings for all axes'. Below the main table, a 'PDO Mapping Setting' dialog box is open, showing a table of Link Device, Index, Sub-Index, Entry Name, Comment, and Data Type. The 'OK' button in the dialog box is circled in red. On the right side, a 'Module List' panel shows a tree view of modules, including 'General CC-Link IE TSN Module', 'CC-Link IE TSN Module (Mitsubishi Electr...', 'Master/Local Module', 'Motion Module', and 'GOT3000 Series'. At the bottom, a 'Network Label' panel shows a diagram of the network topology with three stations (STA#0, STA#1, STA#2) and their respective modules (Ezi-SERVO-CT, Ezi-SERVO-CT-4X, Ezi-SERVO-CT-ABS, Ezi-SERVO-CT-ALL). The 'Output' panel at the bottom right shows 'Error:0', 'Warning:0', and 'Information:0'.

No.	Model Name	STA#	Station Type	RX Setting	RY Setting	RW Setting	Parameter Automatic Setting	PDO Mapping Setting	IP Address	Subnet Mask	Default Gateway
0	Host Station	0	Master Station						192.168.3.253		
1	Ezi-SERVO-ALL-CT	1	Remote Station			16		<Detail Setting>	192.168.3.17		
2	Ezi-SERVO-ALL-CT	2	Remote Station			16		<Detail Setting>	192.168.3.18		
3	Ezi-SERVO-ALL-CT	3	Remote Station			16		<Detail Setting>	192.168.3.19		

Link Device	Index [Hexadecimal]	Sub-Index [Hexadecimal]	Entry Name	Comment	Data Type
RW0000	1002	01	Watchdog counter UL 1		UNSIGNED16
RW0001	6041	00	Statusword		UNSIGNED16
RW0002	6061	00	Modes of operation display		INTEGER8
RW0003	603F	00	Error code		UNSIGNED16
RW0004	6064	00	Position actual value		INTEGER32
RW0005	6064	00	Position actual value		INTEGER32
RW0006	6072	00	Digital Inputs		UNSIGNED32
RW0007	6072	00	Digital Inputs		UNSIGNED32
RW0008					
RW0009					
RW000a					
RW000b					
RW000c					
RW000d					
RW000e					
RW000f					

2-4. Parameter / Module Information / 0000:RD78G4

- CC-Link IE TSN Configuration: Module Setting applied

The screenshot displays the 'CC-Link IE TSN Configuration' software window. The main table lists the configuration for three stations:

No.	Model Name	Station Type	RX Setting	RY Setting	RWr Setting	RWv Setting	Parameter Automatic Setting	PDO Mapping Setting	IP Address	Subnet Mask	Default Gateway
0	Host Station	Master Station							192.168.3.253		
1	Ezi-SERVO-ALL-CT	Remote Station				16	16	<Detail Setting>	192.168.3.17		
2	Ezi-SERVO-ALL-CT	Remote Station				16	16	<Detail Setting>	192.168.3.18		
3	Ezi-SERVO-ALL-CT	Remote Station				16	16	<Detail Setting>	192.168.3.19		

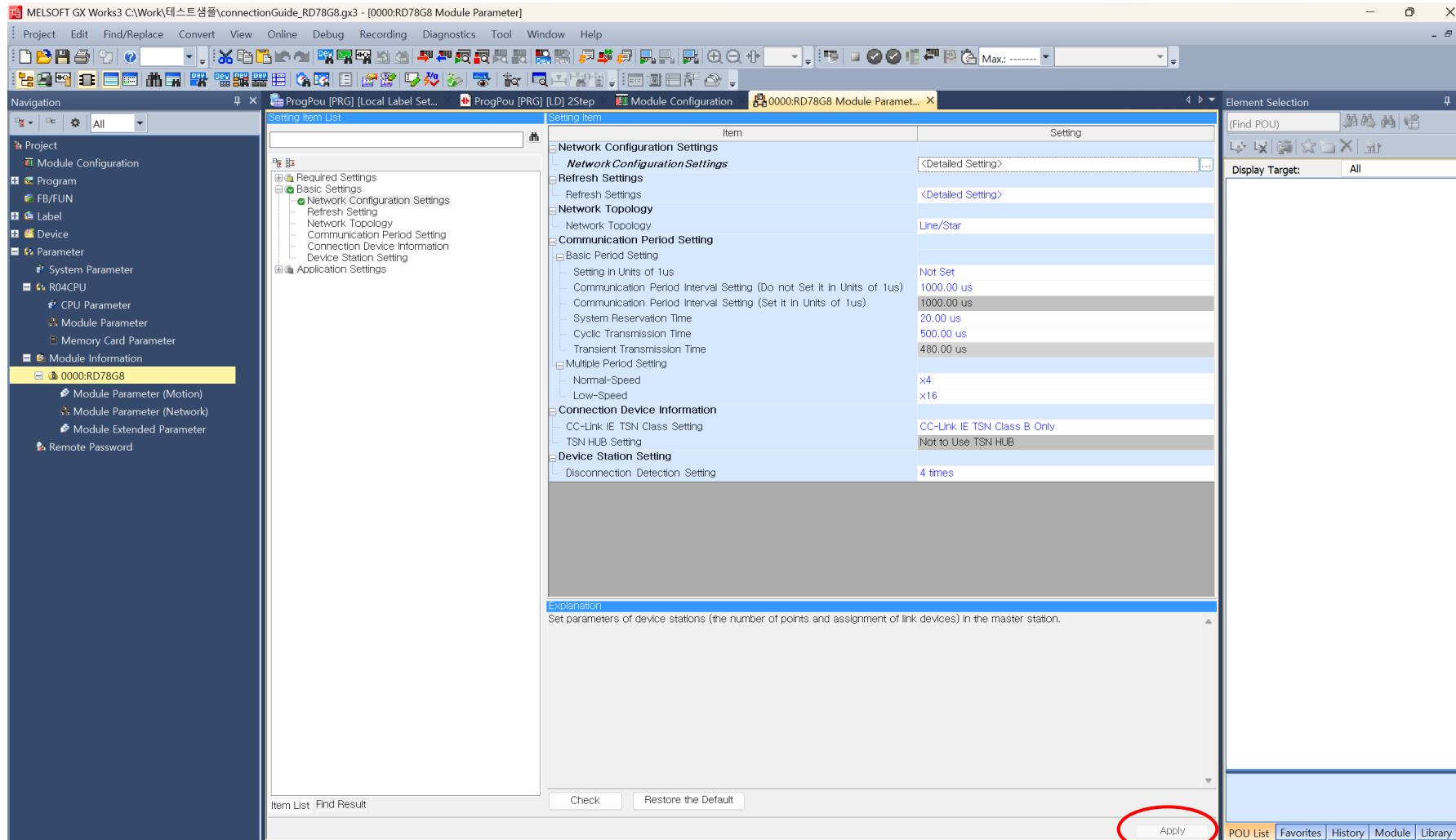
A warning dialog box from MELSOFT GX Works3 is overlaid on the screen, asking: "Warning(s) in the CC-Link IE TSN Configuration. Are you sure you want to close the CC-Link IE TSN Configuration window?". The '예(Y)' (Yes) button is circled in red. A red circle also highlights the 'Close with Reflecting the Setting' button in the software's menu bar.

The right sidebar shows the 'Module List' with various modules selected, including 'General CC-Link IE TSN Module', 'CC-Link IE TSN Module (Mitsubishi Electric)', 'Master/Local Module', 'Motion Module', 'GOT3000 Series', 'GOT2000 Series', 'General-Purpose AC Servo', 'General purpose Inverter', 'DC Input', 'Transistor Output', 'I/O Combined', 'Analog Input', 'Analog Output', 'Network Interface Board', 'EnergyMeasuringUnit', 'Bridge module', 'FPGA module', 'CC-Link IE TSN Module (FASTECH Co. Ltd.)', 'BLDG Servo Drive', 'Closed-loop Step Drive', 'Ezi-SERVO-CT', 'Ezi-SERVO-CT-4X', 'Ezi-SERVO-CT-ABS', 'Ezi-SERVO-CT-ALL', 'Open-loop Step Drive', and 'Speed Control'.

The bottom status bar shows 'Error:0', 'Warning:0', and 'Information:0'.

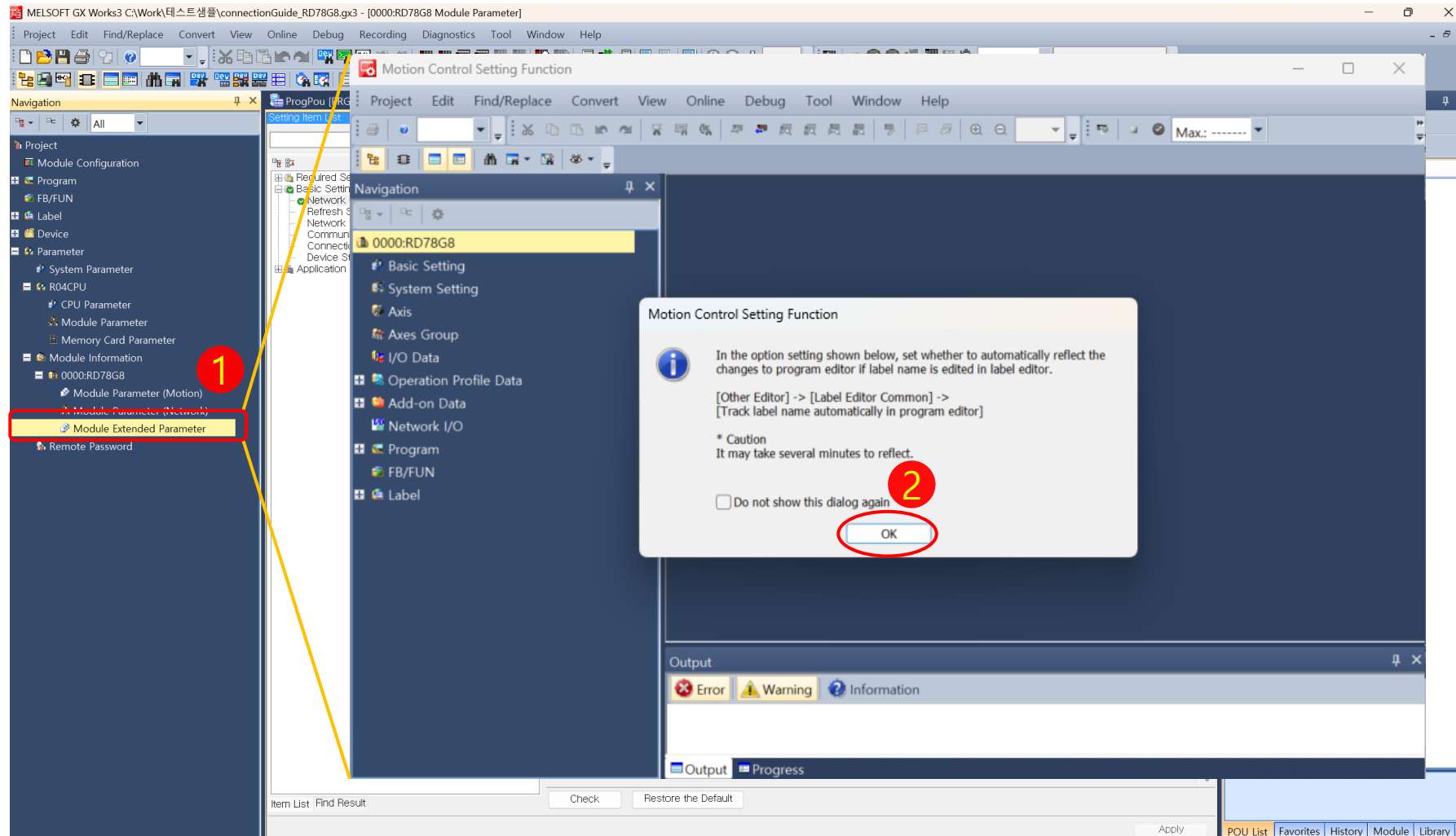
2-4. Parameter / Module Information / 0000:RD78G4

- Apply Network Configuration Settings



2-5. Module Extended Parameter – Motion Control Setting Function

- Module Extended Parameter



2-5. Module Extended Parameter – Motion Control Setting Function

- Axis - Axis0001 Creation

Right-click

1

2

3

New Data

Basic Setting

Data Type: Axis

(Data Name): Axis0001

Detailed Setting

Axis Information

Axis No.: 1

Axis Parameter Constant

Station Address Setting

Axis Type Setting: 0:Real Drive Axis

Control Cycle Setting: 0:Operate in the First Operation C

OK Cancel

Station Address Setting

IP Address	Model Name	Alias
192.168.3.1	Ezi-SERVO-ALL-CT	
192.168.3.1	Ezi-SERVO-ALL-CT	
192.168.3.1	Ezi-SERVO-ALL-CT	

OK Cancel

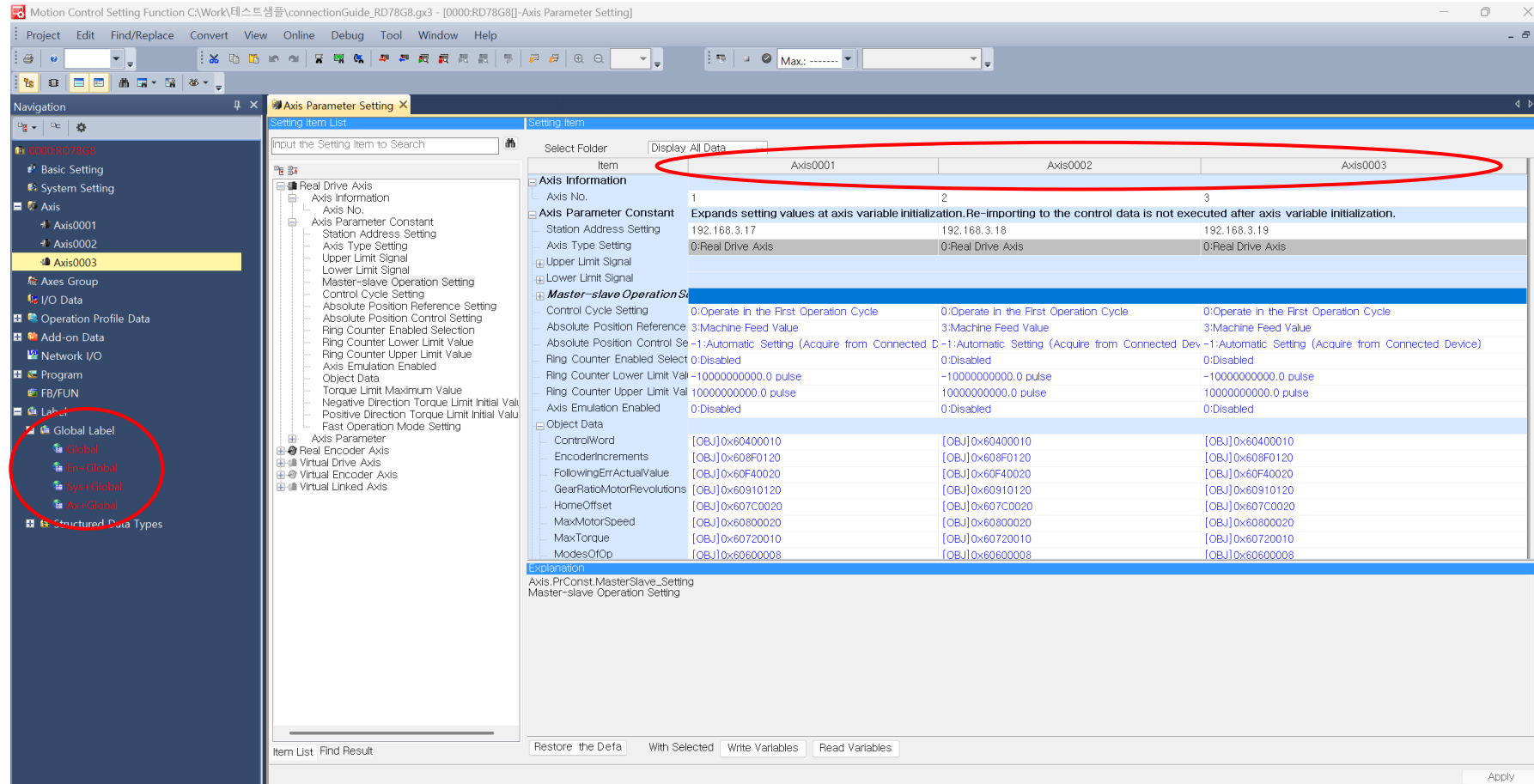
Output

Error Warning Information

Output Progress

2-5. Module Extended Parameter – Motion Control Setting Function

- Axis - Create Axis0001, Axis0002, Axis0003 (Repeat)



2-5. Module Extended Parameter – Motion Control Setting Function

- Axis - Axis0001... - Object Data Setting (Set to Ezi-SERVO CC-Link IE TSN ALL Object Data)

Motion Control Setting Function C:\Work\테스트샘플\connectionGuide_RD78G8.gx3 - [0000:RD78G8]-Axis Parameter Setting

Navigation: 0000:RD78G8, Basic Setting, System Setting, Axis, Axis0001, Axis0002, Axis0003, Axes Group, I/O Data, Operation Profile Data, Add-on Data, Network I/O, Program, FB/FUN, Label, Global Label, Global, Em Global, Sys Global, As Global, Structured Data Types

Axis Parameter Setting

Setting Item List: Input the Setting Item to Search

Setting Item: Select Folder, Display All Data

Item	Axis0001	Axis0002	Axis0003
Ring Counter Lower Limit Value	-10000000000.0 pulse	-10000000000.0 pulse	-10000000000.0 pulse
Ring Counter Upper Limit Value	10000000000.0 pulse	10000000000.0 pulse	10000000000.0 pulse
Axis Emulation Enabled	0:Disabled	0:Disabled	0:Disabled
Object Data			
ControlWord	[OBJ]0x60400010	[OBJ]0x60400010	[OBJ]0x60400010
EncoderIncrements	[OBJ]0x608F0120	[OBJ]0x608F0120	[OBJ]0x608F0120
FollowingErrorActualValue	[OBJ]0x60F40020	[OBJ]0x60F40020	[OBJ]0x60F40020

Object Data Setting (Axis0001)

Target Device: Ezi-SERVO-CT

Changing the object data is not required when MELSERVO has been used. Please set it to the generic default value by pressing Restore the Default Settings button when the non-MELSERVO device has been used. It can be changed individually when the device inherent object data has been set.

ControlWord: [OBJ]0x60400010, EncoderIncrements: [OBJ]0x608F0120, FollowingErrorActualValue: [OBJ]0x60F40020

Restore the Default

MELSOFT GX Works3

The specified station address refers to a non-MELSERVO device. Do you want to set to generic default values?

Yes: Set to generic default values, No: Do not set to generic default values for MELSERVO

예(Y), 아니요(N), 취소

Ezi-SERVO CC-Link IE TSN ALL Object Data

Set default, Are you sure you want to continue?

예(Y), 아니요(N)

Output: Parameter Check, Error: 0, Warning: 0, Information, CheckWarning: 0

No. Result Data Name Category Content

Error Code

2-5. Module Extended Parameter – Motion Control Setting Function

- Axis - Axis0001... - Object Data Setting (Set to Ezi-SERVO CC-Link IE TSN ALL Object Data)

The screenshot displays the 'Motion Control Setting Function' software interface. The 'Axis Parameter Setting' window is open, showing the 'Object Data' section for Axis0003. The 'ControlWord' parameter is highlighted, and three red circles are drawn around the 'ControlWord' parameter for Axis0001, Axis0002, and Axis0003. A yellow callout box points to the 'ControlWord' parameter with the text '[OBJ] Verify Changes'.

Item	Axis0001	Axis0002	Axis0003
Ring Counter Lower Limit Value	-10000000000.0 pulse	-10000000000.0 pulse	-10000000000.0 pulse
Ring Counter Upper Limit Value	10000000000.0 pulse	10000000000.0 pulse	10000000000.0 pulse
Axis Emulation Enabled	0:Disabled	0:Disabled	0:Disabled
Object Data			
ControlWord	[OBJ] 0x60400010	[OBJ] 0x60400010	[OBJ] 0x60400010
EncoderIncrements	[OBJ] 0x608F0120	[OBJ] 0x608F0120	[OBJ] 0x608F0120
FollowingErrorActualValue	[OBJ] 0x60F40020	[OBJ] 0x60F40020	[OBJ] 0x60F40020
GearRatioMotorRevolutions			
HomeOffset	[OBJ] 0x607C0020	[OBJ] 0x607C0020	[OBJ] 0x607C0020
MaxMotorSpeed	[OBJ] 0x60800020	[OBJ] 0x60800020	[OBJ] 0x60800020
MaxTorque	[OBJ] 0x60720010	[OBJ] 0x60720010	[OBJ] 0x60720010
ModesOfOp	[OBJ] 0x60600008	[OBJ] 0x60600008	[OBJ] 0x60600008
ModesOfOpDisp	[OBJ] 0x60610008	[OBJ] 0x60610008	[OBJ] 0x60610008
NegativeTorqueLimitValue	[OBJ] 0x60E10010	[OBJ] 0x60E10010	[OBJ] 0x60E10010
Polarity	[OBJ] 0x607E0008	[OBJ] 0x607E0008	[OBJ] 0x607E0008
PosActualValue	[OBJ] 0x60640020	[OBJ] 0x60640020	[OBJ] 0x60640020
PosEncoderResolution	[OBJ] 0x608F0008	[OBJ] 0x608F0008	[OBJ] 0x608F0008
PosEncoderResolutionMot	[OBJ] 0x608F0220	[OBJ] 0x608F0220	[OBJ] 0x608F0220
PositiveTorqueLimitValue	[OBJ] 0x60E00010	[OBJ] 0x60E00010	[OBJ] 0x60E00010
ShaftRevolutions			
SiUnitPos	[OBJ] 0x60A80020	[OBJ] 0x60A80020	[OBJ] 0x60A80020
SiUnitVel	[OBJ] 0x60A90020	[OBJ] 0x60A90020	[OBJ] 0x60A90020
StatusWord	[OBJ] 0x60410010	[OBJ] 0x60410010	[OBJ] 0x60410010
SupportedDriveModes	[OBJ] 0x65020020	[OBJ] 0x65020020	[OBJ] 0x65020020

Explanation
Request the drive unit to switch status.
The setting values depending on the drive unit connected. Check the manual of object data settings.

[OBJ] Verify Changes

2-5. Module Extended Parameter – Motion Control Setting Function

● Axis – Position Command Unit (Gear Ratio Setting) ※ Ezi-SERVO CC-Link IE TSN ALL Encoder

10,000 ppr

Ezi-SERVO CC-Link IE TSN ALL's Encoder Resolution Setting Range is 10,000 pulses/revolution

The gear ratio setting method is the same as the existing method

Reflects the calculation result to the axis parameters. Values currently set will be deleted and updated to the values of calculation result. Are you sure?

1 Position Command Unit: degree

2 Encoder Resolution: 10000 [pulse/rev]

3 Calculate Axis Para

4 Calculation Result

5 Apply

Axis Parameters

Item	Value
Position Command Unit	degree
Driver Unit Conversion Numerator	1
Driver Unit Conversion Denominator	3
Movement Amount per Driver Unit Command	0.0 [degree]

Click OK to reflect to the axis parameters.

Position Command Unit String: degree

Velocity Command Unit String: U/s

Velocity Bias Value: 0.0 degree/s

Apply

2-5. Module Extended Parameter – Motion Control Setting Function

- Axis – Position Command Unit (Gear Ratio Setting)
※ Ezi-SERVO CC-Link IE TSN ALL Encoder 10,000 ppr

Motion Control Setting Function C:\Work\테스트삼플\connectionGuide_RD78G8.gx3 - [0000:RD78G8]-Axis Parameter Setting

Navigation: 0000:RD78G8, Basic Setting, System Setting, Axis, Axis0001, Axis0002, **Axis0003**, Axes Group, I/O Data, Operation Profile Data, Add-on Data, Network I/O, Program, FB/FUN, Label, Global Label, Global, In+Global, Sys+Global, Ax+Global, Structured Data Types

Setting Item List: Upper Limit Signal, Lower Limit Signal, Master-slave Operation Setting, Control Cycle Setting, Absolute Position Reference Setting, Absolute Position Control Setting, Ring Counter Enabled Selection, Ring Counter Lower Limit Value, Ring Counter Upper Limit Value, Axis Emulation Enabled, Object Data, Torque Limit Maximum Value, Negative Direction Torque Limit Initial, Positive Direction Torque Limit Initial, Fast Operation Mode Setting, Axis Parameter, Acceleration Limit Value, Operation Selection at Start Acceleration, Command In-position Width, Deceleration Limit Value, Driver Unit Conversion Numerator, Driver Unit Conversion Denominator, Forced Stop Signal, Homing Required or Not, Jerk Limit Value, Operation Setting at Overrun, Start Permission at Homing Uncomplete, Deceleration at Stop, Stop Selection at Deceleration to Stop, Stop Selection at Stop Cause Occurrence, Stop Selection at H/W Stroke Limit Error, Process Selection at Servo OFF Correction, Stop Selection at S/W Stroke Limit Error, Driver Command Discard Detection Signal, Software Stroke Limit Lower Value, Software Stroke Limit Target, Software Stroke Limit Upper Value, Position Command Unit String, Position Command Unit, Position Command Unit String, Velocity Command Unit, Velocity Bias Value, Negative Direction Velocity Limit Value, Operation Setting at Velocity Limit Value, Positive Direction Velocity Limit Value

Item	Axis0001	Axis0002	Axis0003
Acceleration Limit Value	2147483647.0 degree/s ²	2147483647.0 pulse/s ²	2147483647.0 pulse/s ²
Operation Selection at Start Acceleration	-1:Error (Not Started)	-1:Error (Not Started)	-1:Error (Not Started)
Command In-position Width	100.0 degree	100.0 pulse	100.0 pulse
Deceleration Limit Value	2147483647.0 degree/s ²	2147483647.0 pulse/s ²	2147483647.0 pulse/s ²
Driver Unit Conversion Numerator	10000	1	1
Driver Unit Conversion Denominator	360 degree	1 pulse	1 pulse
Forced Stop Signal	1:Homing Required	1:Homing Required	1:Homing Required
Homing Required or Not	1:Homing Required	1:Homing Required	1:Homing Required
Jerk Limit Value	2147483647.0 degree/s ³	2147483647.0 pulse/s ³	2147483647.0 pulse/s ³
Operation Setting at Overrun	1:Immediate Stop	1:Immediate Stop	1:Immediate Stop
Start Permission at Homing Uncomplete	0:Disabled	0:Disabled	0:Disabled
Deceleration at Stop	0.0 degree/s ²	0.0 pulse/s ²	0.0 pulse/s ²
Stop Selection at Deceleration to Stop	1:Recreate Deceleration Curve	1:Recreate Deceleration Curve	1:Recreate Deceleration Curve
Stop Selection at Stop Cause Occurrence	3:Alternative Acceleration/Deceleration	3:Alternative Acceleration/Deceleration	3:Alternative Acceleration/Deceleration
Stop Selection at H/W Stroke Limit Error	1:Immediate Stop	1:Immediate Stop	1:Immediate Stop
Process Selection at Servo OFF Correction	0:Ignore	0:Ignore	0:Ignore
Stop Selection at S/W Stroke Limit Error	1:Immediate Stop	1:Immediate Stop	1:Immediate Stop
Driver Command Discard Detection Signal	1:Detection Enabled	1:Detection Enabled	1:Detection Enabled
Signal			
Target			
Signal Detection Method	0:Detection at TRUE	0:Detection at TRUE	0:Detection at TRUE
Compensation Time	0.0 s	0.0 s	0.0 s
Filter Time	0.0 s	0.0 s	0.0 s
Software Stroke Limit Lower Value	-10000000000.0 degree	-10000000000.0 pulse	-10000000000.0 pulse
Software Stroke Limit Target	-1:Invalid	-1:Invalid	-1:Invalid
Software Stroke Limit Upper Value	10000000000.0 degree	10000000000.0 pulse	10000000000.0 pulse
Position Command Unit	degree	degree	degree
Position Command Unit String			
Velocity Command Unit	U/s	U/s	U/s
Velocity Bias Value	0.0 degree/s	0.0 pulse/s	0.0 pulse/s

Explanation: Axis Pr.Unit.Position, Set the position command unit to use for motion control.

Item List Find Result: Restore the Defa, With Selected, Write Variables, Read Variables

Output: Parameter Check, Error: 0, Warning: 0, Information, CheckWarning: 0

No. Result Data Name Category Content

Apply

2-5. Module Extended Parameter – Motion Control Setting Function

- Axis – Absolute Position Control Setting: Set to Disable

Ezi-SERVO CC-Link IE TSN ALL is Select Disable Absolute Position System

Item	Axis0001	Axis0002	Axis0003
Axis Information			
Axis No.	1	2	3
Axis Parameter Constant	Expands setting values at axis variable initialization. Re-importing to the control data is not executed after axis variable initialization.		
Station Address Setting	192.168.3.17	192.168.3.18	192.168.3.19
Axis Type Setting	0:Real Drive Axis	0:Real Drive Axis	0:Real Drive Axis
Upper Limit Signal			
Lower Limit Signal			
Master-slave Operation Setting	0:Operate in the First Operation Cycle	0:Operate in the First Operation Cycle	0:Operate in the First Operation Cycle
Control Cycle Setting	3:Machine Feed Value	3:Machine Feed Value	3:Machine Feed Value
Absolute Position Control Setting	0:Disable Absolute Position System	-1:Automatic Setting (Acquire from Connected Dev)	-1:Automatic Setting (Acquire from Connected Device)
Ring Counter Enabled Selection	0:Disabled	0:Disabled	0:Disabled
Ring Counter Lower Limit Value	1:Enable Absolute Position System	100000.0 mm	-10000000000.0 mm
Ring Counter Upper Limit Value	-1:Automatic Setting (Acquire from Connected Device)	10000.0 mm	10000000000.0 mm
Axis Emulation Enabled	0:Disabled	0:Disabled	0:Disabled
Object Data			
Torque Limit Maximum Value	1000.0 %	1000.0 %	1000.0 %
Negative Direction Torque Limit Initial	300.0 %	300.0 %	300.0 %
Positive Direction Torque Limit Initial	300.0 %	300.0 %	300.0 %
Fast Operation Mode Setting	0000	0000	0000
Axis Parameter	Expands initial values at axis variable initialization. Re-importing to the control data is also executed after axis variable initialization.		
Acceleration Limit Value	2147483647.0 degree/s ²	2147483647.0 mm/s ²	2147483647.0 mm/s ²
Operation Selection at Start Acceleration	-1:Error (Not Started)	-1:Error (Not Started)	-1:Error (Not Started)
Position Command Unit	100.0 degree	100.0 mm	100.0 mm
Velocity Command Unit	2147483647.0 degree/s	2147483647.0 mm/s	2147483647.0 mm/s
Velocity Bias Value	10000	10000	10000
Negative Direction Velocity Limit Value	360 degree	5 mm	10 mm
Operation Setting at Overrun	1:Homming Required	1:Homming Required	1:Homming Required
Start Permission at Homming	2147483647.0 degree/s ³	2147483647.0 mm/s ³	2147483647.0 mm/s ³
Operation Setting at Velocity Limit	1:Immediate Stop	1:Immediate Stop	1:Immediate Stop
Positive Direction Velocity Limit Value	0:Flashlight	0:Flashlight	0:Flashlight

Item List Find Result

Restore the Defa With Selected Write Variables Read Variables

Apply

Output

Parameter Check Error: 0 Warning: 0 Information CheckWarning: 0

No. Result Data Name Category Content

Error Code

2-5. Module Extended Parameter – Motion Control Setting Function

● Network I/O Setting – Per-Axis Digital Input/Output Configuration

1 Digital Output Label Settings

2 Digital Input Label Settings - Limit +/-, ORG, Input

3 MELSOFT GX Works3

Start creating the label on the basis of the following content.
Are you sure you want to continue?

예(Y) 아니요(N)

Create Label

Update Network Configuration Info

Output

Parameter Check Error: 0 Warning: 0 Information CheckWarning: 0

No. Result Data Name Category Content Error Code

Output Progress

2-5. Module Extended Parameter – Motion Control Setting Function

● Axis – Upper/Lower Limit Signal – Signal Detection Method setting

Ezi-SERVO CC-Link IE TSN ALL + Limit Switch Settings
Ezi_SERVO_CT_001_DigitalInputs.1

Ezi-SERVO CC-Link IE TSN ALL -Limit Switch settings are
Ezi_SERVO_CT_001_DigitalInputs.0

Note) If the Ezi_SERVO_CT_xxx_DigitalInputs.x label setting fails,
1. Check Network Settings (page 27)

Apply

Output
Parameter Check Error: 0 Warning: 0 Information CheckWarning: 0
No. Result Data Name Category Content
Error Code

2-5. Module Extended Parameter – Motion Control Setting Function

- Label – Global Label – System + Global

1

2

To use Label in GX Works3, specify Enable

Label Name	Data Type	Class	Initial Value	Constant	English(Display Target)	Rem	Public Label	Motion Control Attribute
1	System	SYSTEM	VAR_GLOBAL	<Detailed Settings>			Enabled	-
2	MotionControl_AdvancedSync_System	MotionControl_AdvancedSync_SYS	VAR_GLOBAL	<Detailed Settings>			Disabled	-
3								

Label Name	Data Type	Comment	Initial Value	Public Label
MotionControl_AdvancedSync_System	MotionControl_AdvancedSync_SYS	System Parameter Constant	Disabled	Disabled
ADDON_PARAM	ADDON_PARAM	Add-on MotionControl_AdvancedSync	Disabled	Disabled
RamSizeMax	Double Word (Unsigned) Bit String [32]	Maximum RAM Size	2048	Disabled
BackupRamSizeMax	Double Word (Unsigned) Bit String [32]	Maximum Backup RAM Size	16	Disabled
Md	Md	System Monitor Data	Disabled	Disabled
ADDON_MONI	ADDON_MONI	System Memory Usage	Disabled	Disabled
RamUsage	Double Word (Unsigned) Bit String [32]	RAM Usage	Disabled	Disabled
RamMaxUsage	Double Word (Unsigned) Bit String [32]	RAM Usage Maximum	Disabled	Disabled
BackupRamUsage	Double Word (Unsigned) Bit String [32]	Backup RAM Usage	Disabled	Disabled
BackupRamMaxUsage	Double Word (Unsigned) Bit String [32]	Backup RAM Usage Maximum	Disabled	Disabled

Extd Dspl

Progress

Assigning global label...

Error: 0, Warning: 0

===== Rebuild All Ends Error: 0, Warning: 0, End Time: 2026/01/16 19:49:54, Processing Time (Seconds): 5.475 =====

----- Rebuild All/Parameter Check Starts Start Time: 2026/01/16 19:50:25 -----

--- Start checking: Target: Basic Setting ---

Checking Basic Setting...

--- Start checking: Target: System Setting ---

Checking System Setting...

--- Start checking: Target: Axis ---

Checking Axis...

--- Start checking: Target: Operation Profile Data ---

Checking Operation Profile Data...

--- Start checking: Target: I/O Data ---

Checking I/O Data...

--- Start checking: Target: Advanced Synchronous Control ---

===== Rebuild All/Parameter Check Ends Error: 0, Warning: 0, End Time: 2026/01/16 19:50:29, Processing Time: 4 Seconds =====

2-5. Module Extended Parameter – Motion Control Setting Function

- Label – Global Label – Ax+Global

1

2

To use Label in GX Works3, specify Enable

Label Name	Data Type	Class	Initial Value	Constant	English(Display Target)	Rem
1 Axis0001	AXIS_REAL	VAR_GLOBAL	<Detailed Settings>			
2 Axis0002	AXIS_REAL	VAR_GLOBAL	<Detailed Settings>			
3 Axis0003	AXIS_REAL	VAR_GLOBAL	<Detailed Settings>			
4						

Label Name	Data Type	Comment	Initial Value	Public Label
Axis0003	AXIS_REAL			Enabled
AxisRef	AXIS_REF	Axis Information		Enabled
AxisNo	Word [Unsigned/Bit String [16-bit]	Axis No.	3	Enabled
StartIO	Word [Unsigned/Bit String [16-bit]	IO Number	0	Enabled
PrConst	AXIS_REAL_PRM_CONST	Axis Parameter Constant		Disabled
AddressOfStation	String [Unicode](53)	Station Address Setting	192.168	Disabled
AxisType	Word [Signed]	Axis Type Setting	0	Disabled
MaxStrokeLimit_FlxSignal	SIGNAL_SELECT	Upper Limit Signal		Disabled
Source	TARGET_REF	Signal		Disabled
StartIO	Word [Unsigned/Bit String [16-bit]	IO Number	0	Disabled
Target	String [Unicode](53)	Target		Disabled

Extd Dspl

Progress

Assigning global label...

Error: 0, Warning: 0

==== Rebuild All/Parameter Check Starts Start Time: 2026/01/16 19:49:54, Processing Time (Seconds): 5.475 =====

--- Start checking: Target: Basic Setting ---

Checking Basic Setting...

--- Start checking: Target: System Setting ---

Checking System Setting...

--- Start checking: Target: Axis ---

Checking Axis...

--- Start checking: Target: Operation Profile Data ---

Checking Operation Profile Data...

--- Start checking: Target: I/O Data ---

Checking I/O Data...

--- Start checking: Target: Advanced Synchronous Control ---

==== Rebuild All/Parameter Check Ends Error: 0, Warning: 0, End Time: 2026/01/16 19:50:29, Processing Time: 4 Seconds =====

2-5. Module Extended Parameter – Motion Control Setting Function

- Label – Global Label – System + Global

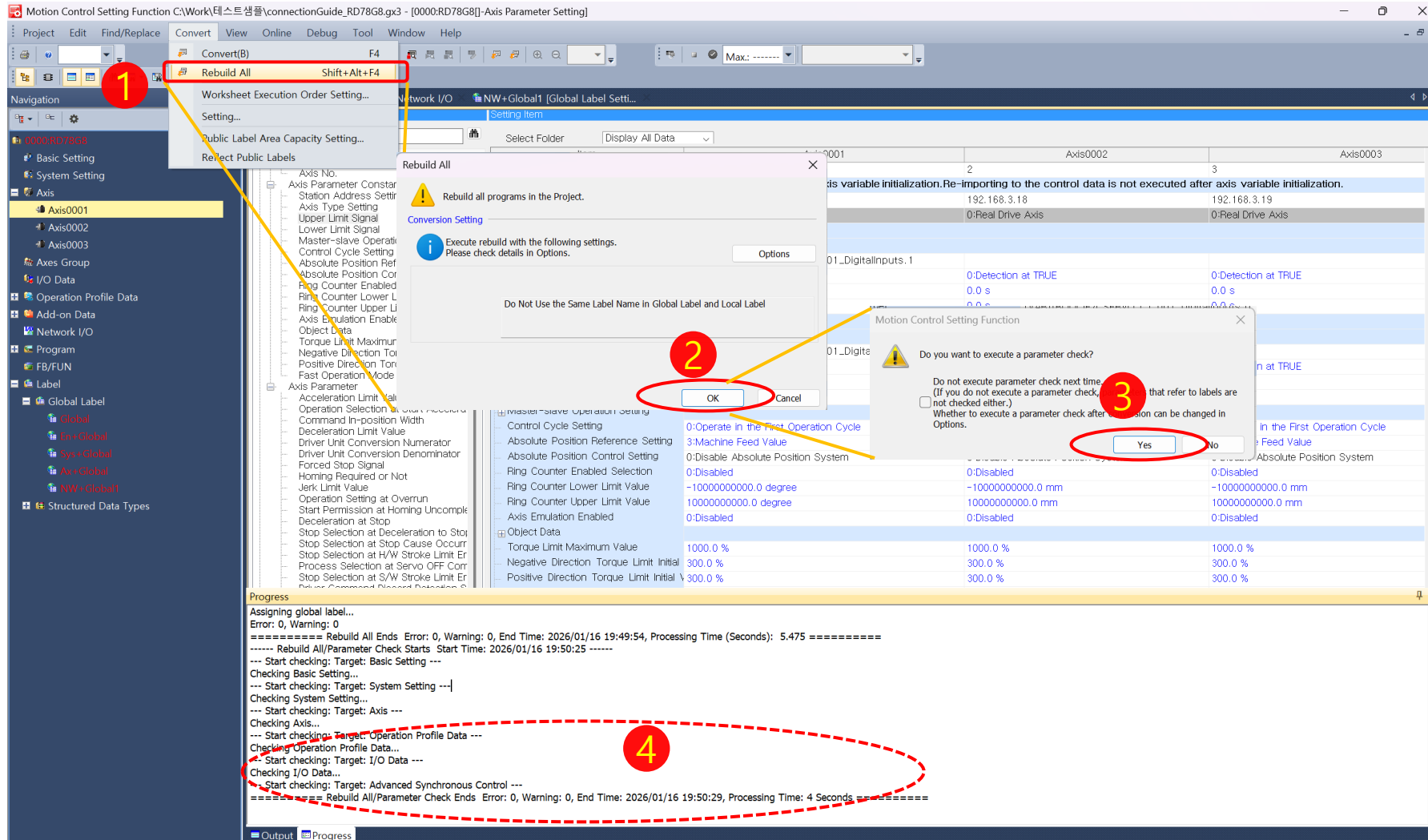
The screenshot shows the 'Motion Control Setting Function' software interface. The title bar indicates the file path: C:\Work\테스트샘플\connectionGuide_RD78G8.gx3 - [0000:RD78G8]-NW+Global1 [Global Label Setting]. The interface includes a menu bar (Project, Edit, Find/Replace, Convert, View, Online, Debug, Tool, Window, Help) and a toolbar. The left sidebar contains a navigation tree with categories like Basic Setting, System Setting, Axis, Axes Group, I/O Data, Operation Profile Data, Add-on Data, Network I/O, Program, FB/FUN, Label, and Structured Data Types. Under the 'Label' category, 'Global Label' is expanded, showing sub-items: Global, En+Global, Sys+Global, and NW+Global1. A red circle with the number '1' highlights the 'NW+Global1' item. The main window displays a table with columns: Label Name, Data Type, Class, Initial Value, Constant, English(Display Target), and Public Label. The table lists several labels, including 'Ezi_SERVO_CT_001_Phys...', 'Ezi_SERVO_CT_002_Phys...', 'Ezi_SERVO_CT_002_Digi...', 'Ezi_STEP_CT_001_Phys...', and 'Ezi_STEP_CT_001_Digital...'. A red circle with the number '2' highlights the 'Enabled' checkbox in the 'Public Label' column for the first row. A yellow callout box with the text 'To use Label in GX Works3, specify Enable' points to the 'Enabled' checkbox. The bottom status bar shows the progress of the 'Assigning global label...' process, including error and warning messages, and the end time and processing time.

Label Name	Data Type	Class	Initial Value	Constant	English(Display Target)	Public Label	Motion Control Attribute
Ezi_SERVO_CT_001_Phys...	Double Word (Unsigned) Bit String B...	VAR_GLOBAL			R1v6S	Enabled	WRITE (← Motion) R1v6
Ezi_SERVO_CT_001_Digi...	Double Word (Unsigned) Bit String B...	VAR_GLOBAL			R1v6S	Enabled	READ (Motion →) R1v6
Ezi_SERVO_CT_002_Phys...	Double Word (Unsigned) Bit String B...	VAR_GLOBAL			R1v6S	Enabled	WRITE (← Motion) R1v6
Ezi_SERVO_CT_002_Digi...	Double Word (Unsigned) Bit String B...	VAR_GLOBAL			R1v6S	Enabled	READ (Motion →) R1v6
Ezi_STEP_CT_001_Phys...	Double Word (Unsigned) Bit String B...	VAR_GLOBAL			R1v6S	Enabled	WRITE (← Motion) R1v6
Ezi_STEP_CT_001_Digital...	Double Word (Unsigned) Bit String B...	VAR_GLOBAL			R1v6S	Enabled	READ (Motion →) R1v6

Progress
Assigning global label...
Error: 0, Warning: 0
===== Rebuild All Ends Error: 0, Warning: 0, End Time: 2026/01/16 19:49:54, Processing Time (Seconds): 5.475 =====
----- Rebuild All/Parameter Check Starts Start Time: 2026/01/16 19:50:25 -----
--- Start checking: Target: Basic Setting ---
Checking Basic Setting...
--- Start checking: Target: System Setting ---
Checking System Setting...
--- Start checking: Target: Axis ---
Checking Axis...
--- Start checking: Target: Operation Profile Data ---
Checking Operation Profile Data...
--- Start checking: Target: I/O Data ---
Checking I/O Data...
--- Start checking: Target: Advanced Synchronous Control ---
===== Rebuild All/Parameter Check Ends Error: 0, Warning: 0, End Time: 2026/01/16 19:50:29, Processing Time: 4 Seconds =====

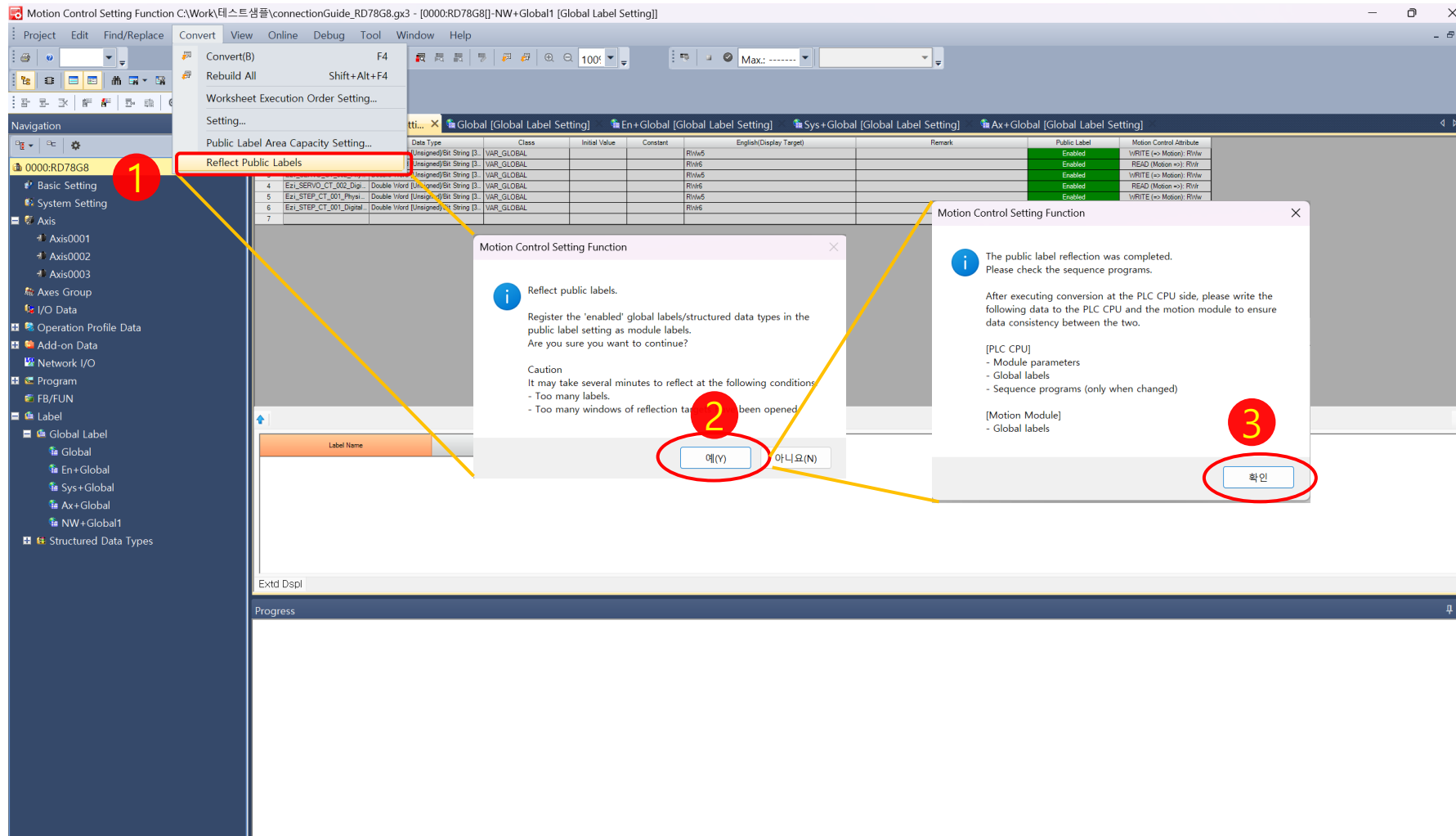
2-5. Module Extended Parameter – Motion Control Setting Function

- Convert – Rebuild All → Parameter Check



2-5. Module Extended Parameter – Motion Control Setting Function

● Reflect Public Labels



- **Convert – Rebuild All**



2-7. Write to PLC

- Online Data Operation

The screenshot shows the MELSOFT GX Works3 interface. A red circle with the number '1' highlights the 'Write to PLC...' option in the 'Online' menu. A yellow arrow points from this option to the 'Online Data Operation' dialog box. The dialog box has tabs for 'Display', 'Setting', and 'Related Functions'. The 'Display' tab is active, showing a table of memory areas and their status. Below the table, there is a 'Memory Capacity' section with a bar chart and a legend. The 'Execute' button at the bottom right of the dialog box is circled in red.

Module Name/Data Name	Detail	Title	Last Change	Size (Byte)
MAIN			2026-02-02 ...	Not Calculated
Device Memory				
MAIN		Detail	2026-02-02 ...	-
File Register				
MAIN		Detail	2026-02-02 ...	Not Calculated
Common Device Co...				
COMMENT		Detail	2026-02-02 ...	Not Calculated

Memory Capacity Size Calculation

Legend

- Used
- Increased
- Decreased
- Free: 5% or Less

Program Memory: Free 157/160KB

Data Memory: Free 1852/2049KB

Device/Label Memory (File Storage Area): Free 192/256KB

SD Memory Card: Free 0/0KB

Execute Close

3. Follow the Program

3-1. Exploring Motion Control Commands

● Motion Control Function/Function Block Command – Element Selection – Axis0001.AxisRef

The screenshot displays the MELSOFT GX Works3 interface. The main workspace shows a ladder logic diagram with a function block labeled 'MC_Power_1 (MC_Power) Operation Available'. A yellow dotted arrow labeled 'Mouse Click & Drag' points from the 'MC_Power' entry in the 'Library' list on the right to the function block in the diagram. The 'Library' list is expanded, showing various motion control commands. The 'MC_Power' entry is highlighted with a red box and a red circle labeled '2'. The 'Library' tab is selected at the bottom of the right panel, indicated by a red circle labeled '1'.

Navigation: ProgPou [PRG] [Local Label Set...] ProgPou [PRG] [LD] 30Step * x Module Configuration

Project: Module Configuration, Program, Initial, Scan, MAIN, ProgPou, Local Label, ProgramBody, Fixed Scan, Event, Standby, No Execution Type, Unregistered Program, FB/FUN, FBFILE_1, MC_Power Operation Available, Label, Global, M+RD78_0000, Structured Data Types, AXIS_REF, M+RD78_0000_AXIS_REAL, M+RD78_0000, Device, Parameter, System Parameter, R04CPU, CPU Parameter, Module Parameter, Memory Card Parameter, Module Information, 0000:RD78G8, Module Parameter (Motion), Module Parameter (Network), Module Extended Parameter, Remote Password

Library: safety_R, MotionControl_RD78_1.12 MotionControl_RD78, FB, Management, MC_AbortTrigger Touch Probe Disabled, MC_CamTableSele Cam Table Selection, MC_GroupDisable Axis Group Disabled, MC_GroupEnable Axis Group Enabled, MC_GroupReset Axis Group Error Reset, MC_GroupSetOve Axis Group Override Change, MC_Power Operation Available, MC_ReadParamet Read Axis Parameters, MC_Reset Axis Error Reset, MC_SetOverride Axis Override Change, MC_SetPosition Current Position Change, MC_TouchProbe Touch Probe Enabled, MC_WriteParamet Write Axis Parameter, MCv_AdvCamSetP CamSetPosition Calculation, MCv_AdvPositionF Position Per Cycle Calculation, MCv_AllPower All Axes Operation Available, MCv_ChangeCycle Current Value Change per Cycle, MCv_MotionErrorf System Error Reset, MCv_SetTorqueLir Torque Limit Value, Operation-Individual, StandardFB, Global Label, Structured Data Type

MC_Power [Version] 06G

POU List Favorites History Module Library

3-2. [Ladder] SERVO Enable, SERVO ON

- Ezi-SERVO CC-Link IE TSN Enable/SERVO ON Program

The screenshot displays the MELSOFT GX Works3 software interface. The main window shows a ladder logic program for 'ProgPou [PRG] [LD] 30Step *'. The program is divided into two sections: 'MC_Power_1 (MC_Power) Operation Available' and 'B: Enable Status B'. The ladder logic consists of several rungs, with the first rung (R1) showing a normally open contact labeled 'X1' connected to a coil labeled 'OUT'. The second rung (R2) shows a normally open contact labeled 'X0' connected to a coil labeled 'T0'. The third rung (R3) shows a normally open contact labeled 'X0' connected to a coil labeled 'T0'. The fourth rung (R4) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The fifth rung (R5) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The sixth rung (R6) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The seventh rung (R7) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The eighth rung (R8) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The ninth rung (R9) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The tenth rung (R10) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The eleventh rung (R11) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The twelfth rung (R12) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The thirteenth rung (R13) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The fourteenth rung (R14) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The fifteenth rung (R15) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The sixteenth rung (R16) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The seventeenth rung (R17) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The eighteenth rung (R18) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The nineteenth rung (R19) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The twentieth rung (R20) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The twenty-first rung (R21) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The twenty-second rung (R22) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The twenty-third rung (R23) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The twenty-fourth rung (R24) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The twenty-fifth rung (R25) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The twenty-sixth rung (R26) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The twenty-seventh rung (R27) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The twenty-eighth rung (R28) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The twenty-ninth rung (R29) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The thirtieth rung (R30) shows a normally open contact labeled 'T0' connected to a coil labeled 'T0'. The thirtieth rung (R30) is labeled '[END]'.

The right-hand pane shows the 'Element Selection' window. The 'Display Target' is set to 'All'. The 'Module Label' section lists the following items:

- 3E00:R04CPU
- 0000:RD78G8
- RD78_0000
- RD78_0000
- Ax+Global
- Axis0001
- Axis0001
- AxisRef
- AxisRef
- AxisNo
- StartIO
- Axis0002
- Axis0003
- NW+Global1

The 'Module FB' section lists the following items:

- R04CPU
- M+RCPU_Msynchroniza OUT FB of delay at one cycle
- M+RCPU_Msynchroniza OUT FB of delay at two cycle
- M+RCPU_Msynchroniza SET FB of delay at one cycle
- M+RCPU_Msynchroniza SET FB of delay at two cycles
- M+RCPU_Msynchroniza RST FB of delay at one cycle
- M+RCPU_Msynchroniza RST FB of delay at two cycles
- M+RCPU_Msynchroniza MOV FB of delay at one cycle
- M+RCPU_Msynchroniza MOV FB of delay at two cycle
- M+RCPU_Msynchroniza DMOV FB of delay at one cycle
- M+RCPU_Msynchroniza DMOV FB of delay at two cycle
- M+RCPU_ConnectionOp Connect Open FB
- M+RCPU_ConnectionClk Connect Close FB
- M+RCPU_Send_Socket Send Socket FB
- M+RCPU_Recv_Socket Recv Socket FB
- M+RCPU_SLMP_D Device Read FB by specify IP

The 'AxisRef' section shows the 'Axis Information' table:

Axis No.	I/O Number
Axis0001	
Axis0002	
Axis0003	

A red box highlights the 'AxisRef' section, and a red circle with the number '1' is placed over the 'AxisRef' label. A red box also highlights the 'AxisRef' section, and a red circle with the number '2' is placed over the 'AxisRef' label. A yellow dashed arrow points from the 'AxisRef' section to the 'AxisRef' label, with the text 'Mouse Click & Drag' written next to it.

3-3. [Ladder] Specifying the homing method

- Specifying the Homing Method (MC_WriteParameter, 33: Homing i

Homing Parameter Address: H60980008
Homing Method: 33 (Homing index pulse (negative direction))

FB: MC_WriteParameter

MC_WriteParameter_1 (MC_...

Comparison

설정값	내용
1	Homing on negative limit switch and index pulse
2	Homing on positive limit switch and index pulse
7	Homing on home switch (positive direction, negative edge) and index pulse
10	Homing on home switch (positive direction, positive edge) and index pulse
11	Homing on home switch (negative direction, positive edge) and index pulse
14	Homing on home switch (negative direction, negative edge) and index pulse
17	Homing on negative limit switch
18	Homing on positive limit switch
24	Homing on home switch (positive direction, negative edge)
25	Homing on home switch (positive direction, positive edge)
28	Homing on home switch (negative direction, positive edge)
29	Homing on home switch (negative direction, negative edge)
33	Homing index pulse (negative direction)
34	Homing index pulse (positive direction)
35	Set the current position origin
37	Set the current position origin and reset current position
-3	Homing on negative mechanical limit
-4	Homing on positive mechanical limit
-5	Homing on negative mechanical limit and index pulse
-6	Homing on positive mechanical limit and index pulse

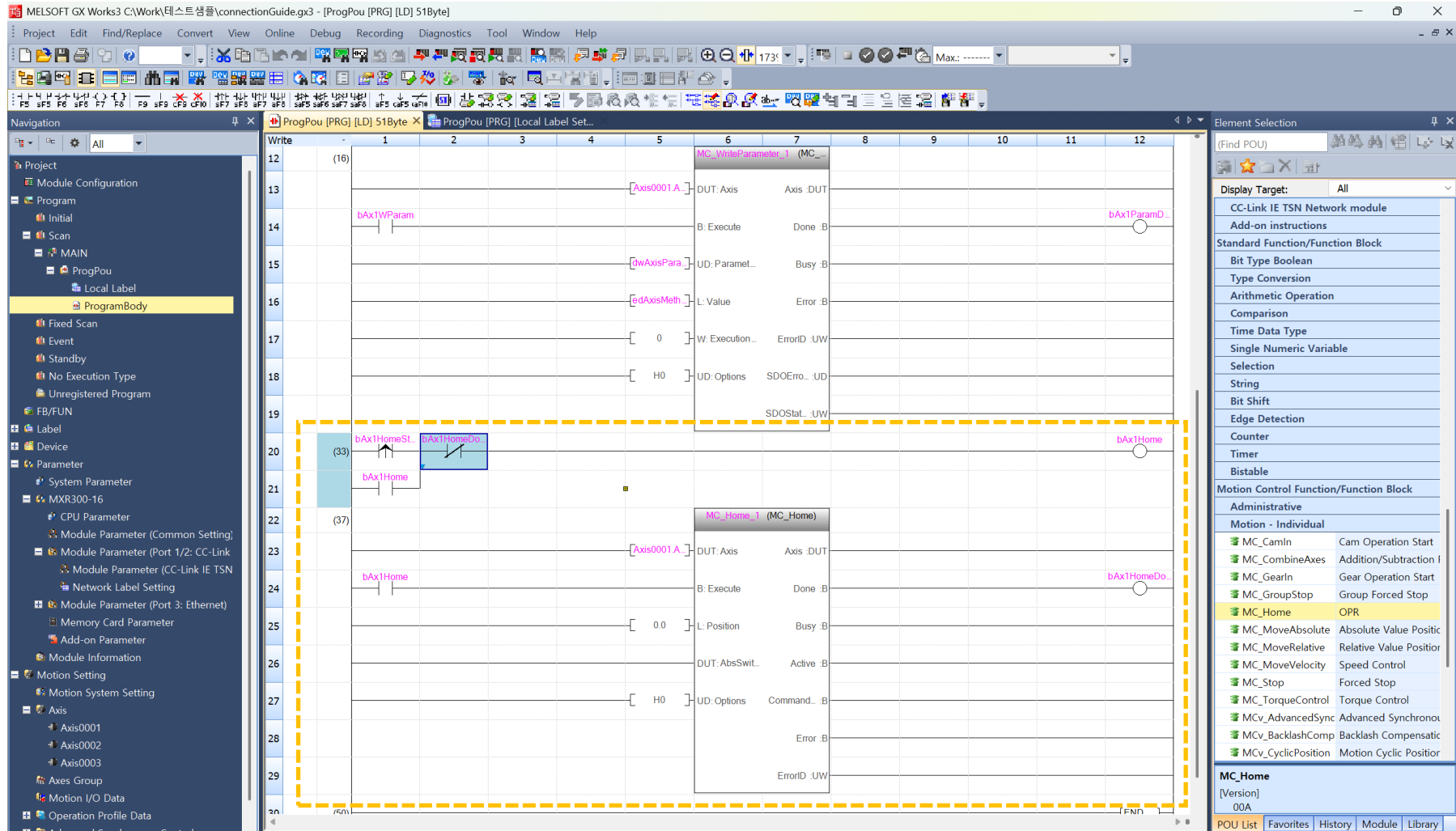
MC_WriteParameter

[Version] 00A

POU List Favorites History Module Library

The homing method is classified as follows based on the setting value for Homing method (6098h):

설정값	내용
1	Homing on negative limit switch and index pulse
2	Homing on positive limit switch and index pulse
7	Homing on home switch (positive direction, negative edge) and index pulse
10	Homing on home switch (positive direction, positive edge) and index pulse
11	Homing on home switch (negative direction, positive edge) and index pulse
14	Homing on home switch (negative direction, negative edge) and index pulse
17	Homing on negative limit switch
18	Homing on positive limit switch
24	Homing on home switch (positive direction, negative edge)
25	Homing on home switch (positive direction, positive edge)
28	Homing on home switch (negative direction, positive edge)
29	Homing on home switch (negative direction, negative edge)
33	Homing index pulse (negative direction)
34	Homing index pulse (positive direction)
35	Set the current position origin
37	Set the current position origin and reset current position
-3	Homing on negative mechanical limit
-4	Homing on positive mechanical limit
-5	Homing on negative mechanical limit and index pulse
-6	Homing on positive mechanical limit and index pulse



3-5. [Ladder] Execute Ezi-SERVO Operation

- Execute Movement Operation (MC_MoveAbsolute)

Arbitrary Position Setting

- bAx1PosPos1 ON → 3600.0
- bAx1PosPos1 ON → 0.0
- ※ 3,600 – 10 revolutions

MC_MoveAbsolute

Parameter	Value	Unit	Comment
DUT: Axis	Axis 0001 A	Axis	DUT
B: Execute	Done	B	
B: Continuou...	Busy	B	
L: Position	edAx1Pos1	Active	B
L: Velocity	3000.0	Command	B
L: Accelerati...	180000.0	Error	B
L: Decelerati...	180000.0	ErrorID	UDW
L: Jerk	0.0		
W: Direction	K3		
W: BufferMo...			
UD: Options			

3-6. [Ladder] Execute Ezi-SERVO DIO Operation

- Digital Input, Output Operation Execution

The screenshot displays the MELSOFT GX Works3 interface for a ladder logic program. The main workspace shows a ladder logic diagram with various parameters and digital input/output connections. The left sidebar contains a project tree with folders for Project, Module Configuration, Program, Initial, Scan, MAIN, ProgPou, Local Label, ProgramBody, MoveProgram, and Local Label. The right sidebar shows the 'Element Selection' panel with a list of modules and functions. Two yellow callout boxes highlight specific sections: 'Ezi_SERVO_CT_001_DigitalInputs' and 'Ezi_SERVO_CT_001_PhysicalOutputs'.

Ezi_SERVO_CT_001_DigitalInputs

Ezi_SERVO_CT_001_PhysicalOutputs

3-6. [Ladder] Execute Ezi-SERVO DIO Operation: Refer to Map

- Digital Inputs

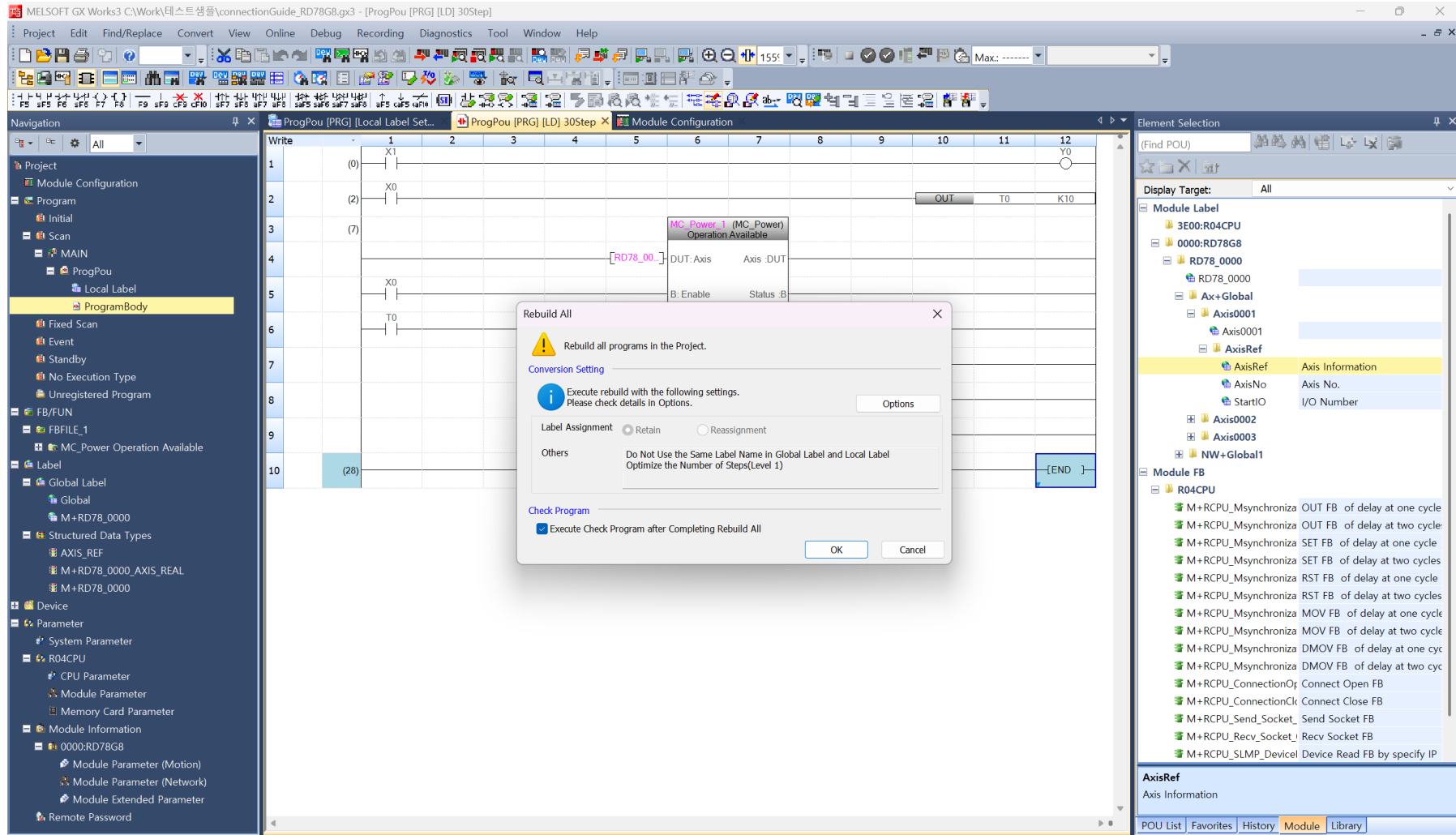
Bit 31	Bit 30	Bit 29	Bit 28	Bit 27	Bit 26	Bit 25	Bit 24
-	Motor Power	TQOFF2	TQOFF1	-	-	User input 6	User input 5
Bit 23	Bit 22	Bit 21	Bit 20	Bit 19	Bit 18	Bit 17	Bit 16
User input 4	User input 3	User input 2	User input 1	Reserved	Reserved	Reserved	
Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8
-	-	-	-	-	-	-	-
Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
-	-	-	-	-	Origin switch	Positive limit switch	Negative limit switch

- Physical Outputs

Bit 31	Bit 30	Bit 29	Bit 28	Bit 27	Bit 26	Bit 25	Bit 24
-	-	-	-	-	-	-	-
Bit 23	Bit 22	Bit 21	Bit 20	Bit 19	Bit 18	Bit 17	Bit 16
-	-	-	User output 5	User output 4	User output 3	User output 2	User output 1
Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8
-	-	-	-	-	-	-	-
Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
-	-	-	-	-	-	-	Set brake

3-7. [Ladder] Convert

- Convert – Rebuild All



Appendix

[Operation Verification] Axis Monitor

- Monitor the status, position, homing, and error of each axis.

The screenshot shows the MELSOFT GX Works3 interface with the Axis Monitor window open. The window displays a table of axis parameters for five axes (Axis #1 to Axis #5). The 'Homing Request' row is highlighted in green, indicating it is active. The 'Motion Common Monitor' panel on the right shows various motion parameters and error codes.

Axis Name	Axis #1	Axis #2	Axis #3	Axis #4	Axis #5
Axis Status	4:Standstill	4:Standstill	4:Standstill	4:Standstill	4:Standstill
Control Cycle	1	1	1	1	1
Position Command Unit Display	degree	degree	degree	degree	degree
Velocity Command Unit Display	degree/s	degree/s	degree/s	degree/s	degree/s
Set Position	0.10058283805847 d...	0.0 degree	0.0 degree	0.0 degree	0.0 degree
Actual Position	0.1003303527832 de...	0.0 degree	0.0 degree	0.0 degree	0.0 degree
Commanded Position	0.0 degree	0.0 degree	0.0 degree	0.0 degree	0.0 degree
Set Velocity	0.0 degree/s	0.0 degree/s	0.0 degree/s	0.0 degree/s	0.0 degree/s
Actual Velocity	-0.31650066375732 d...	0.0 degree/s	0.0 degree/s	0.0 degree/s	0.0 degree/s
Commanded Velocity	0.0 degree/s	0.0 degree/s	0.0 degree/s	0.0 degree/s	0.0 degree/s
Negative Direction Velocity Limit Value	2500000000.0 degree/s	2500000000.0 degree/s	2500000000.0 degree/s	2500000000.0 degree/s	2500000000.0 degree/s
Positive Direction Velocity Limit Value	2500000000.0 degree/s	2500000000.0 degree/s	2500000000.0 degree/s	2500000000.0 degree/s	2500000000.0 degree/s
Automatically Decelerating Command In-position	FALSE	FALSE	FALSE	FALSE	FALSE
Negative Direction Torque Limit Value	300.0 %	300.0 %	300.0 %	300.0 %	300.0 %
Positive Direction Torque Limit Value	300.0 %	300.0 %	300.0 %	300.0 %	300.0 %
Execution Profile ID No.	0	0	0	0	0
Homing Completed	FALSE	FALSE	FALSE	FALSE	FALSE
Homing Request	TRUE	TRUE	TRUE	TRUE	TRUE
Start Permission at Homing Uncompleted	FALSE	FALSE	FALSE	FALSE	FALSE
Upper Limit Signal Status	FALSE	FALSE	FALSE	FALSE	FALSE
Lower Limit Signal Status	FALSE	FALSE	FALSE	FALSE	FALSE
Forced Stop Cancelling	TRUE	TRUE	TRUE	TRUE	TRUE
Axis Error Detection	FALSE	FALSE	FALSE	FALSE	FALSE
Axis Error Code	H0000	H0000	H0000	H0000	H0000
Axis Warning Detection	FALSE	FALSE	FALSE	FALSE	FALSE
Axis Warning Code	H0000	H0000	H0000	H0000	H0000
Driver Ready On Status	TRUE	TRUE	TRUE	TRUE	TRUE
Driver Servo On Status	TRUE	TRUE	TRUE	TRUE	TRUE
Driver Status	6:Operation Enable	6:Operation Enable	6:Operation Enable	6:Operation Enable	6:Operation Enable
Drive Unit Error Detection	FALSE	FALSE	FALSE	FALSE	FALSE
Drive Unit Error Code	H0000	H0000	H0000	H0000	H0000
Drive Unit Error Detail Code	H0000	H0000	H0000	H0000	H0000

The 'Motion Common Monitor' panel on the right shows various motion parameters and error codes. The 'Ready' status is indicated by a green checkmark. The 'Synchronization flag' is also shown. The 'Operation Cycle Monitor' section displays processing times and setting cycles for various operations. The 'Motion Area System Error Detection' section shows the latest error code as H0000.

[Operation Verification] Changing the Homing Method

- Change the homing method using Motion Control FB

- ① Specify Parameter Number: H60980008
- ② Value (Homing Method) Specified: 33.0
- ③ Execution Mode: TRUE (Write)
- ④ Done: Becomes TRUE

The homing method is classified as follows based on the setting value for Homing method (6098h).

설정값	내용
1	Homing on negative limit switch and index pulse
2	Homing on positive limit switch and index pulse
7	Homing on home switch (positive direction, negative edge) and index pulse
10	Homing on home switch (positive direction, positive edge) and index pulse
11	Homing on home switch (negative direction, positive edge) and index pulse
14	Homing on home switch (negative direction, negative edge) and index pulse
17	Homing on negative limit switch
18	Homing on positive limit switch
24	Homing on home switch (positive direction, negative edge)
25	Homing on home switch (positive direction, positive edge)
28	Homing on home switch (negative direction, positive edge)
29	Homing on home switch (negative direction, negative edge)
33	Homing index pulse (negative direction)
34	Homing index pulse (positive direction)
35	Set the current position origin
37	Set the current position origin and reset current position
-3	Homing on negative mechanical limit
-4	Homing on positive mechanical limit
-5	Homing on negative mechanical limit and index pulse
-6	Homing on positive mechanical limit and index pulse

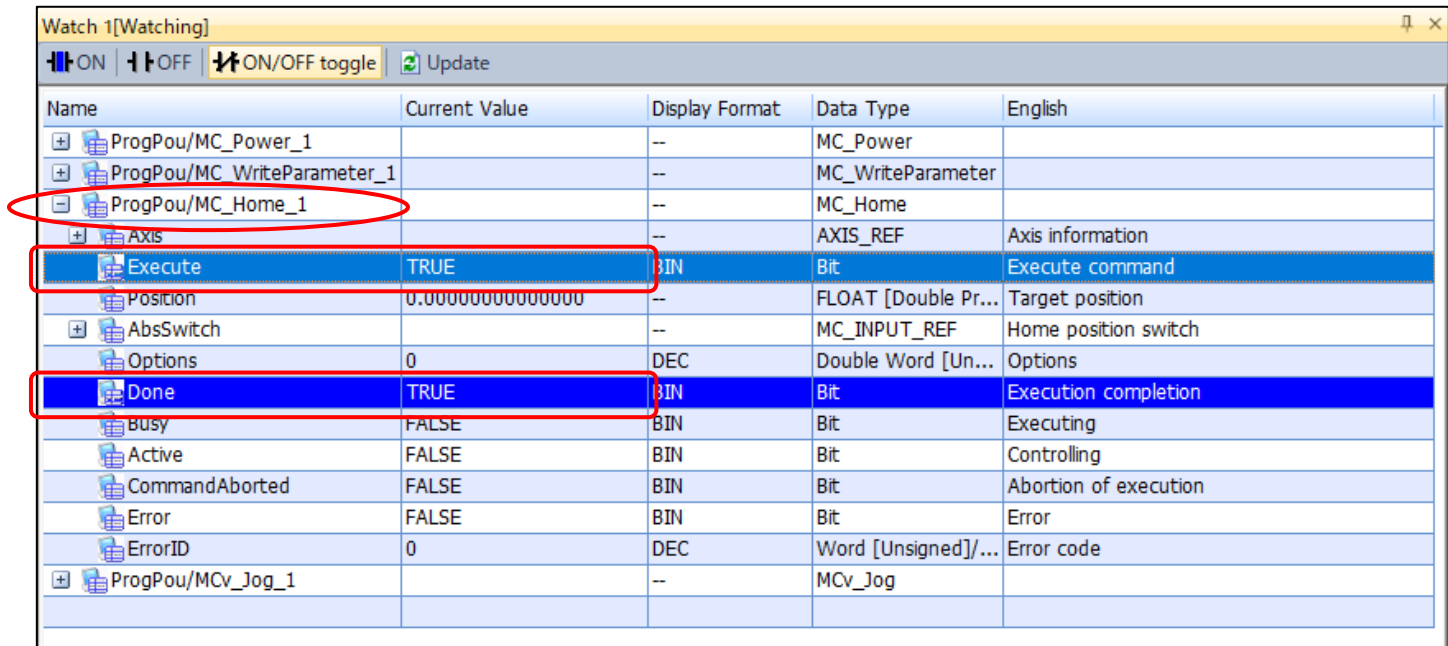
Watch 1[Watching]				
ON OFF ON/OFF toggle Update				
Name	Current Value	Display Format	Data Type	English
ProgPou/MC_Power_1		--	MC_Power	
ProgPou/MC_WriteParameter_1		--	MC_WriteParameter	
Axis		--	AXIS_REF	Axis information
Execute	TRUE	BIN	Bit	Execute command
ParameterNumber	H60980008	HEX	Word [Unsigned]/...	Setting value
Value	37.00000000000000	BIN	Double Word [Un...	Setting value
ExecutionMode	0	DEC	Word [Signed]	Execution mode
Options	0	DEC	Double Word [Un...	Options
Done	TRUE	BIN	Bit	Execution completion
Busy	FALSE	BIN	Bit	Executing
Error	FALSE	BIN	Bit	Error
ErrorID	H0000	HEX	Word [Unsigned]/...	Error code
SDOErrorID	H00000000	HEX	Double Word [Un...	Transient error code
SDOStatus	1	DEC	Word [Unsigned]/...	SDO transfer status
ProgPou/MC_Home_1		--	MC_Home	
ProgPou/MCv_Jog_1		--	MCv_Jog	

Display Format: HEX
selected

[Operation Verification] Homing

- Execute homing using motion control FB

- ① Execute → TRUE (Write)
- ② Done → Becomes TRUE



Name	Current Value	Display Format	Data Type	English
ProgPou/MC_Power_1		--	MC_Power	
ProgPou/MC_WriteParameter_1		--	MC_WriteParameter	
ProgPou/MC_Home_1		--	MC_Home	
Axis		--	AXIS_REF	Axis information
Execute	TRUE	BIN	Bit	Execute command
Position	0.0000000000000000	--	FLOAT [Double Pr...	Target position
AbsSwitch		--	MC_INPUT_REF	Home position switch
Options	0	DEC	Double Word [Un...	Options
Done	TRUE	BIN	Bit	Execution completion
Busy	FALSE	BIN	Bit	Executing
Active	FALSE	BIN	Bit	Controlling
CommandAborted	FALSE	BIN	Bit	Abortion of execution
Error	FALSE	BIN	Bit	Error
ErrorID	0	DEC	Word [Unsigned]/...	Error code
ProgPou/MCv_Jog_1		--	MCv_Jog	

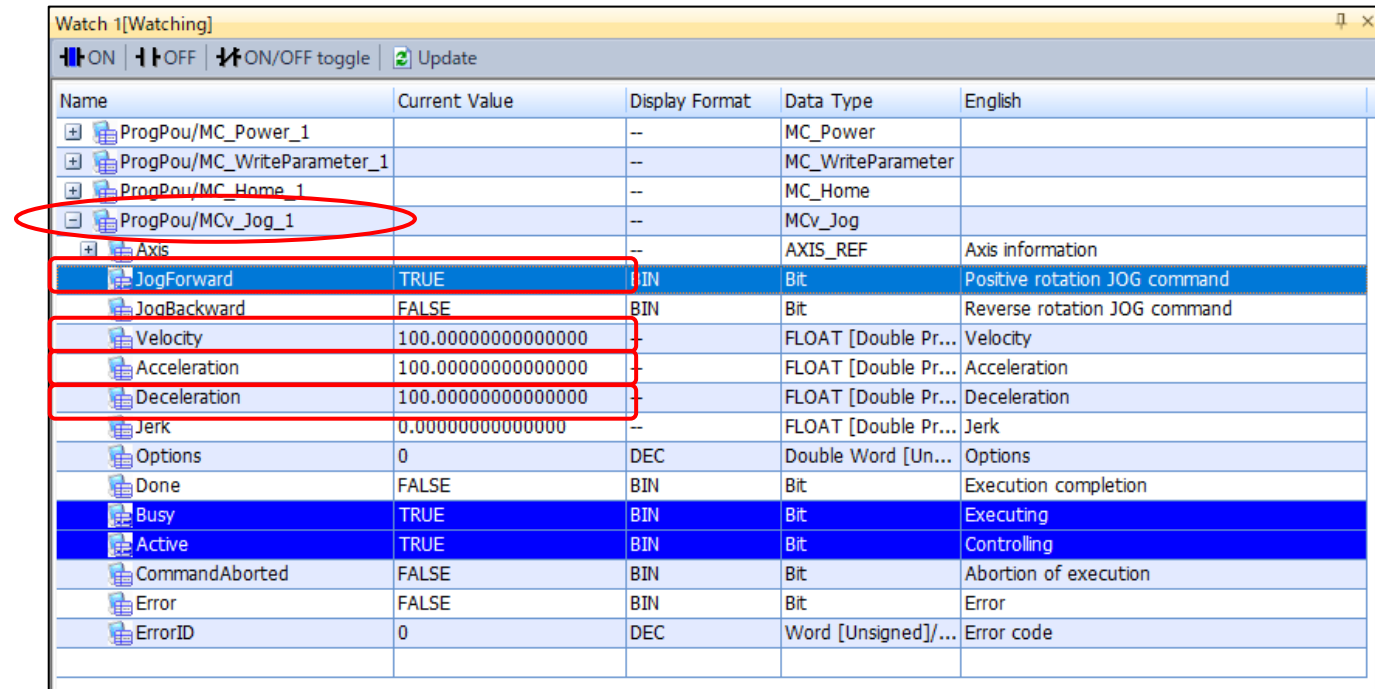
- When using the LIMIT+ / LIMIT- signals of Ezi-SERVO CC-Link IE TSN ALL as hardware stroke limits, set the following axis control data before startup (start).

[AxisName.Cd.HwStrokeLimit_Override] → 'DISABLE'

[Operation Verification] Jog Operation

- Execute Jog operation using Motion Control FB

- ① Velocity → 100.0
- ② Acceleration → 100.0
- ③ Deceleration → 100.0
- ④ JogForward → TRUE (Write)



Name	Current Value	Display Format	Data Type	English
ProgPou/MC_Power_1		--	MC_Power	
ProgPou/MC_WriteParameter_1		--	MC_WriteParameter	
ProgPou/MC_Home_1		--	MC_Home	
ProgPou/MCv_Jog_1		--	MCv_Jog	
Axis		--	AXIS_REF	Axis information
JogForward	TRUE	BIN	Bit	Positive rotation JOG command
JogBackward	FALSE	BIN	Bit	Reverse rotation JOG command
Velocity	100.00000000000000		FLOAT [Double Pr...	Velocity
Acceleration	100.00000000000000		FLOAT [Double Pr...	Acceleration
Deceleration	100.00000000000000		FLOAT [Double Pr...	Deceleration
Jerk	0.0000000000000000	--	FLOAT [Double Pr...	Jerk
Options	0	DEC	Double Word [Un...	Options
Done	FALSE	BIN	Bit	Execution completion
Busy	TRUE	BIN	Bit	Executing
Active	TRUE	BIN	Bit	Controlling
CommandAborted	FALSE	BIN	Bit	Abortion of execution
Error	FALSE	BIN	Bit	Error
ErrorID	0	DEC	Word [Unsigned]/...	Error code

[Operation Verification] Troubleshooting

- When an error occurs, check the cause in the Event History (log)

① [Online] -> [Motion Monitor] -> [Event History]

The screenshot shows the 'Motion Control Setting Function (Untitled Project)' software. The 'Motion Monitor' menu is open, and 'Event History' is selected. The 'Event History: [0000RD78G64]' window is displayed, showing a list of events. The 'Detailed Information' tab is active, showing details for event 00001.

Event History: [0000RD78G64]

No.	Occurrence Date	Error Type	Status	Error Code	Description
00001	2024/10/15 15:15:07.552561336	System	OK	00000	Homing Request (H- to OK)
00002	2024/10/15 15:15:07.557015517	System	OK	00000	Current Position Extension Completion
00003	2024/10/15 15:15:07.557855334	System	OK	00000	servo System Extension Start
00004	2024/10/15 15:15:08.650169395	Operation	OK	20710	Follow-up Motion Execution

Detailed Information

Axis No. Information

Axis Type: Real Drive Axis

Error Occurrence Mode/Axis Group: 0

Error Code: 00001

00001

Homing request was OK.

- Absolute position error in driver data was detected. (Data: drive no. 0001) (Detail Code: 00000)
- An absolute position error in the driver data was detected. (Detail Code: 00000)
- The axis type was changed. (Detail Code: 00001)
- Drive object: 'Polarity (00001)' b7: position polarity was changed. (Detail Code: 00001)
- Change of the drive of motion encoder was detected. (Detail Code: 00001)
- Machine homing was detected. (Detail Code: 00001)
- Drive unit connection (frictionless connection) of the axis was detected. (Detail Code: 00001)
- Machine homing has been detected after the system started. (Detail Code: 00001)

Review the event in detail

[Operation Verification] Troubleshooting

- If **"SLMP Communication Error" (1C43h)** occurs
→ Please set the object data by referring to the axis parameters.
- If the **"Warning: Connection setting error for drive unit other than MELSERVO" (0D4Ch)** occurs
→ Refer to the axis parameters and disable the Absolute position system.
- If **"Control Mode Switching Error" (1A1Dh)** occurs when **starting MC_Home**
→ In the network configuration settings (add driver),
Set Network Synchronous Communication to ****"Synchronous"****.
- When starting MC_Home using the driver's **LIMIT+ / –** signals, it detects upper/lower limit signals and stops
→ Set [AxisName.Cd.HwStrokeLimit_Override] to 'DISABLE' and configure the axis control data in the program, etc.

[Parameter] Homing Parameter Settings

- Various settings related to homing are performed on the following object
 - Use MC_WriteParameter to write the setting values.
 - For detailed information on each object, refer to the Ezi-SERVO CC-Link IE TSN ALL manual.

Object Name	Index: Subindex	Setting Details
Home Offset	Obj.607C: 00h	Difference between the zero position of the machine coordinate system and the homing position
Homing method	Obj.6098: 00h	Homing method
Homing speeds	Obj.6099: 01h	Homing speeds
Homing speeds	Obj.6099: 02h	Cliff speed during homing
Homing acceleration	Obj.609A: 00h	Acceleration during homing



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