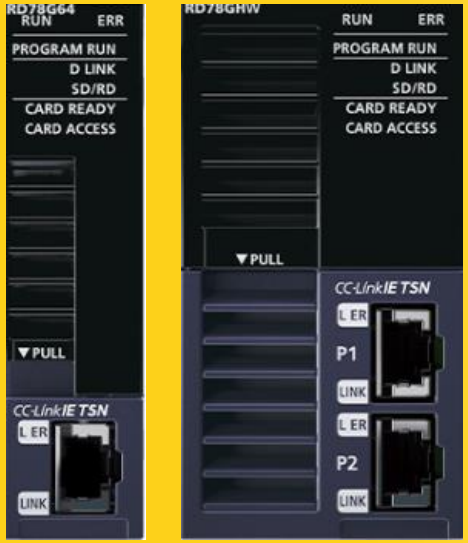
https://cltsn.fastech-motions.com/en

FASTECH
Fast Accurate Smooth Motion



Programmable Controllers
MELSEC iQ-R series



Ezi-STEP® CC-Link IE TSN 4X
Micro Stepping System

Connection Guide

MELSEC iQ-R RD78G(H) and Ezi-STEP® CC-Link IE TSN 4X Micro Stepping System

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

FASTECH Products
Ezi-STEP CC-Link IE TSN 4X

Before you begin

- Thank you for using our company's products.
- The Ezi-STEP CC-Link IE TSN 4X 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 on a CC-Link IE TSN network.
- The Ezi-STEP CC-Link IE TSN 4X is an industrial product. Do not use it for any other purpose. Our company assumes no responsibility for any damages incurred due to non-compliance with this instruction.
- This connection guide provided by our company explains how to connect the Ezi-STEP CC-Link IE TSN 4X 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-STEP CC-Link IE TSN 4X 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-STEP 4X] Micro Stepping System	
[Connection Guide][CC-Link IE TSN][MELSEC iQ-R RD78G(H)][Ezi-STEP 4X]	

- 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, and also supports transient transmission. The Ezi-STEP CC-Link IE TSN 4X corresponds to this station.
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.

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2. RD78G(H) Settings

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3. Follow the Program

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

3-3. [Ladder] Specifying the homing method

3-4. [Ladder] Execute Ezi-STEP homing

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3-6. [Ladder] Execute Ezi-STEP 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-STEP CC-Link IE TSN 4X 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

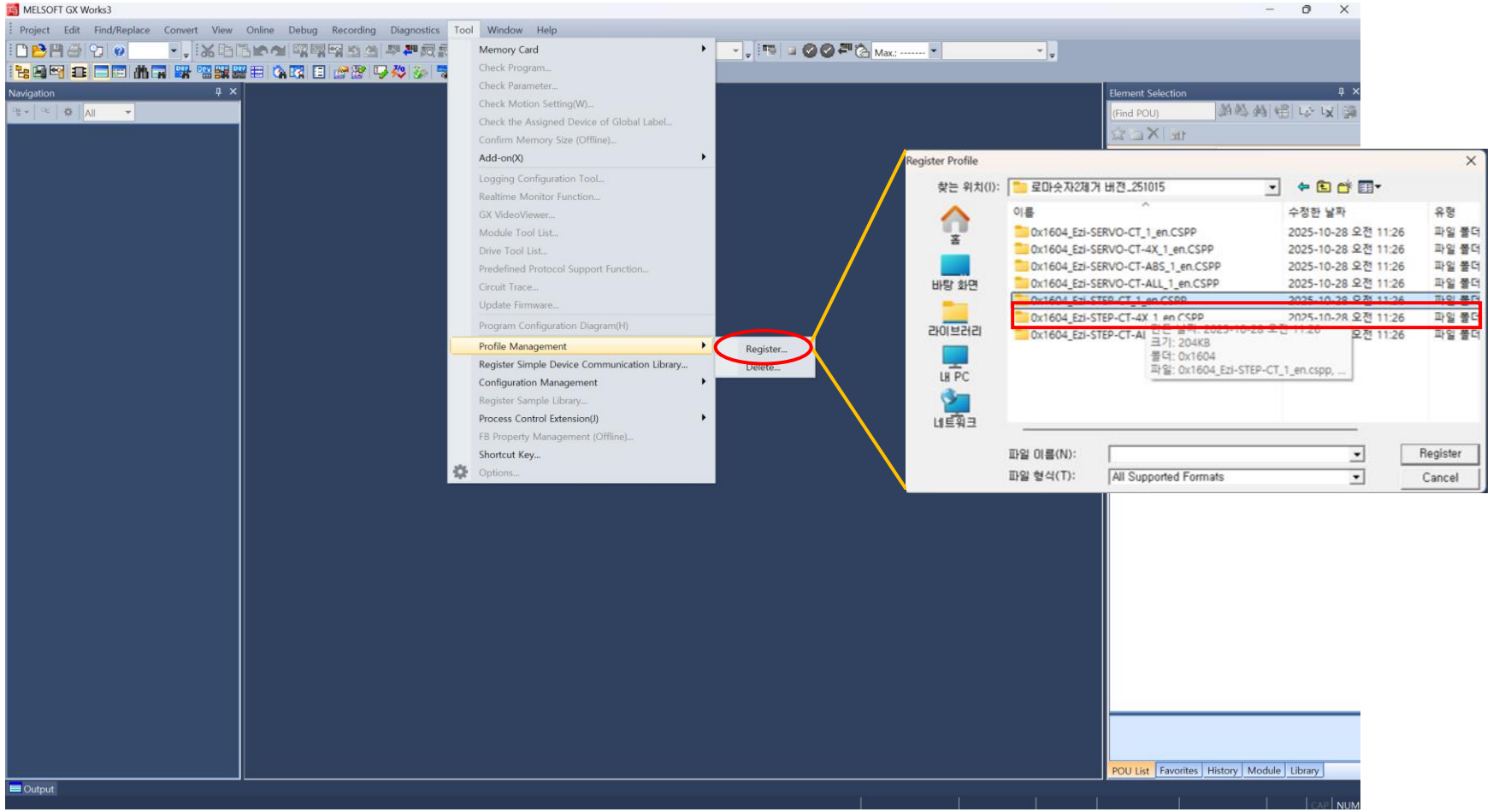
※ For the latest files, please refer to the Mitsubishi Electric website.
(https://www.mitsubishielectric.com/fa/download/index.html)

◆ **Remote station: Ezi-STEP CC-Link IE TSN 4X**

- CSP+ File Download address: https://cltsn.fastech-motions.com/en/download/quick
- File Name: 0x1604_Ezi-STEP-4X-CT_1_en_CSPP

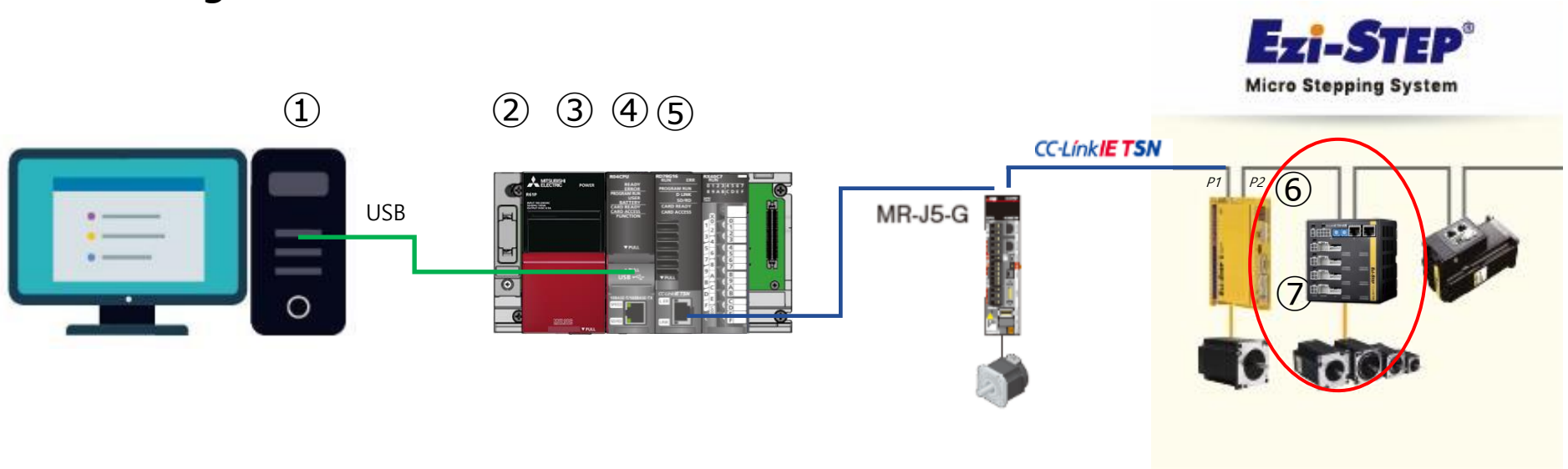
1-2. Ezi-STEP CC-Link IE TSN 4X CSP+ File Registration

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



1-3. CC-Link IE TSN Configuration

- **System Configuration**



Configuration		Product name	IP address
①	Engineering software	GX Works3	-
②	Main base	R33B	-
③	Power supply module	R61P	-
④	CPU module	iQ-R04	-
⑤	Motion module	RD78G4	192.168.3.253
⑥	Driver	EzT2-CT-4X	192.168.3.1
⑦	Motor	BM-42S	-

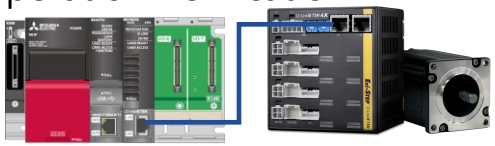
1-3. CC-Link IE TSN Configuration

- **Ezi-STEP 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)
Synchronization method	Time synchronization method	IEEE1588 / IEEE802.1AS
	Communication cycle	Minimum 250 μs
	Network synchronization communication	Synchronous Communication (CSP, PP, HM) / Asynchronous Communication (PP, HM)
Encoder type		Incremental type

1-4. Setup Sequence

- **Ezi-STEP, RD78G(H) Parameter Settings**

No	Item	Details
1	Ezi-STEP 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-STEP Operation Verification 	Write a program to verify that the RD78G(H) and Ezi-STEP are configured correctly. Manipulate labels to verify the motor operates normally.

1-4. Setup Sequence

● Ezi-STEP 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 Homing method (Index: 6098h, Subindex:00h) setting - 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-STEP)

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.
Follow up function	This product must perform homing when the servo is turned ON. As this is an open-loop control system, the 'Position actual value (Index:6064h, Subindex: 00h)' is not updated when the servo is OFF. In the Follow-up function, the motor rotation amount is reflected in the controller command based on the 'Position actual value (Index:6064h, Subindex:00h)'. Therefore, the controller command and the motor position will be misaligned by the amount the motor rotated while the servo was OFF.
Mark detection function	The driver's TPR1 (Touch Probe 1) 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

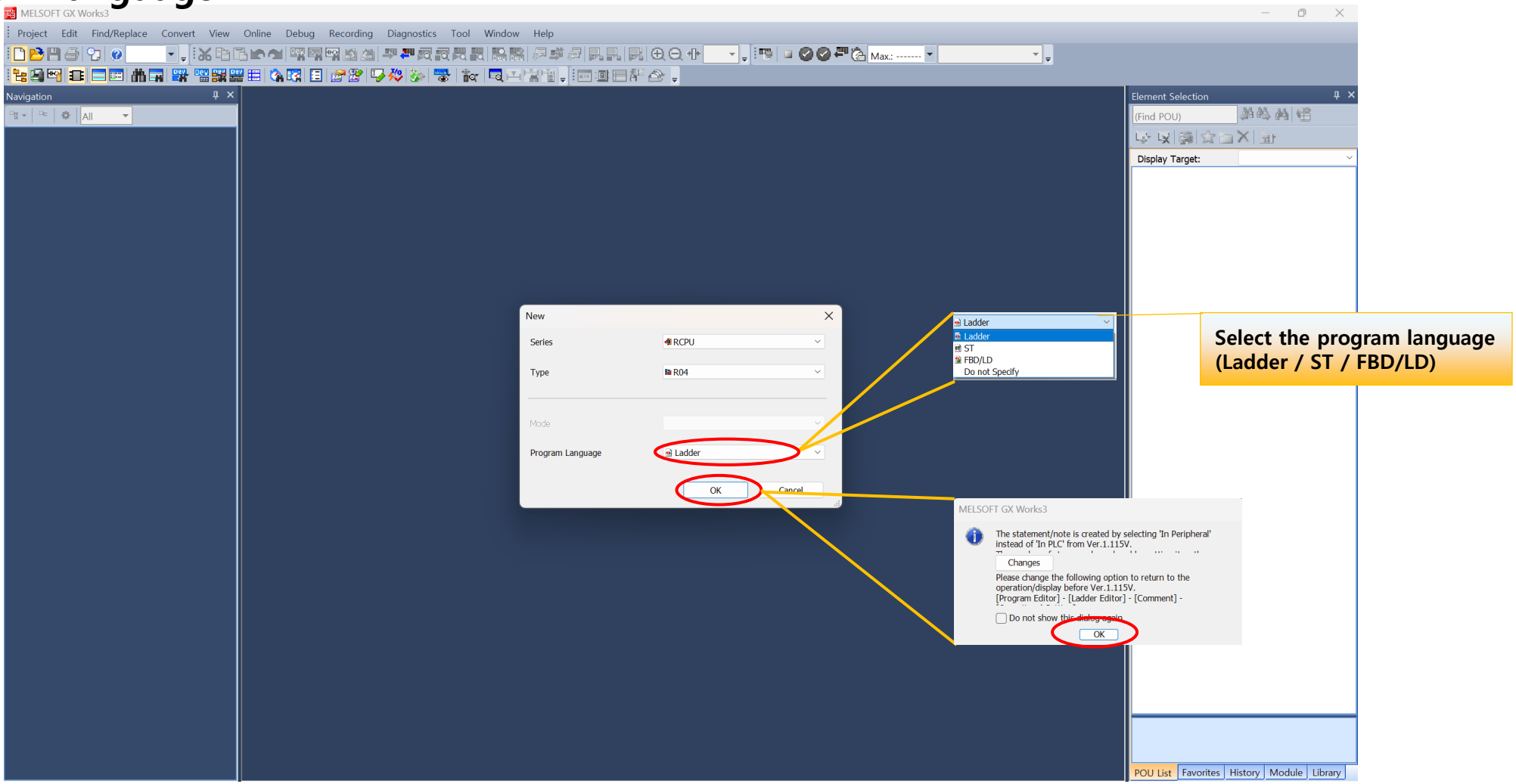
● Motion Control Function Restrictions (RD78G(H) and Ezi-STEP)

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

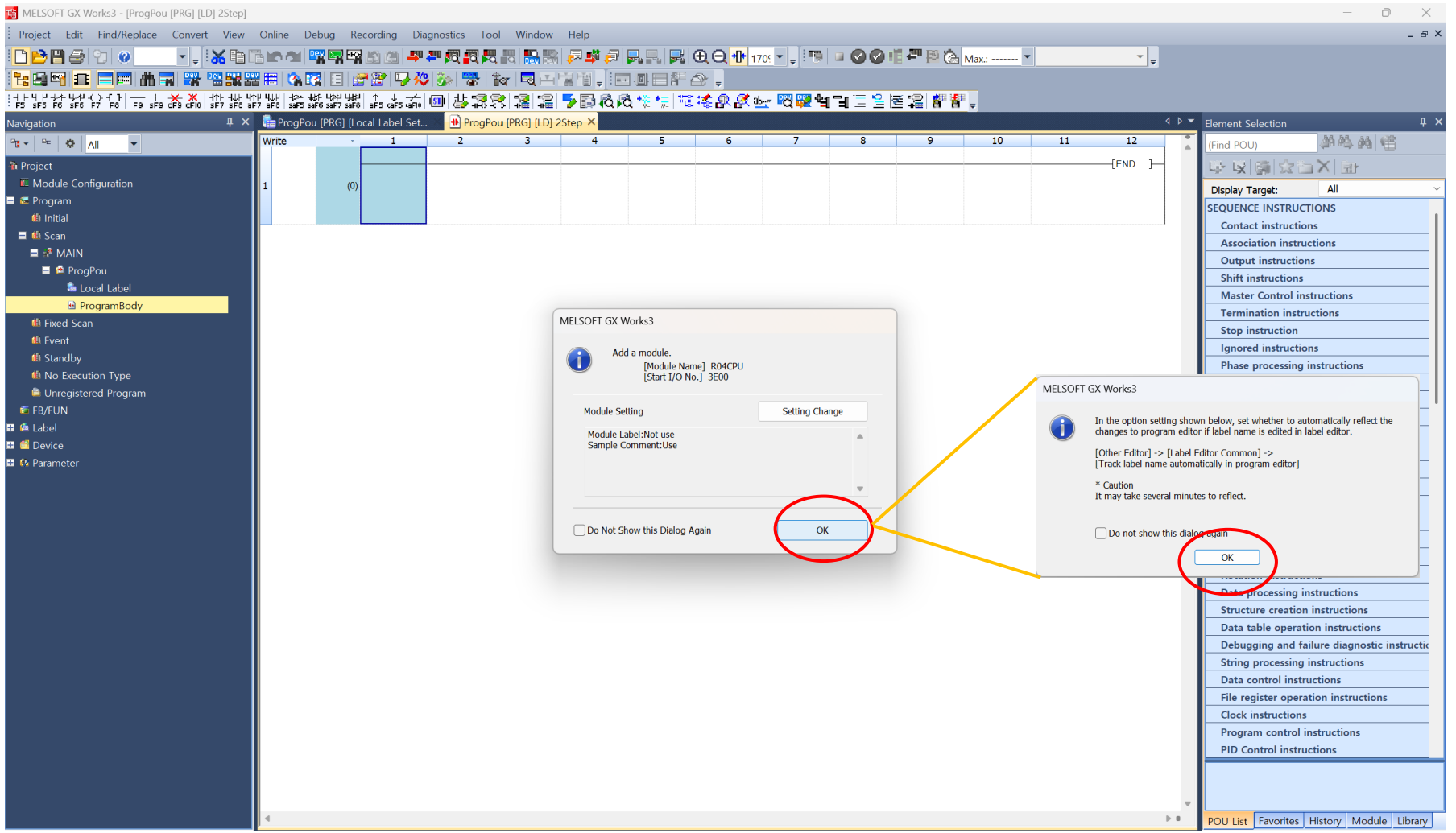
2-1. Project Creation

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



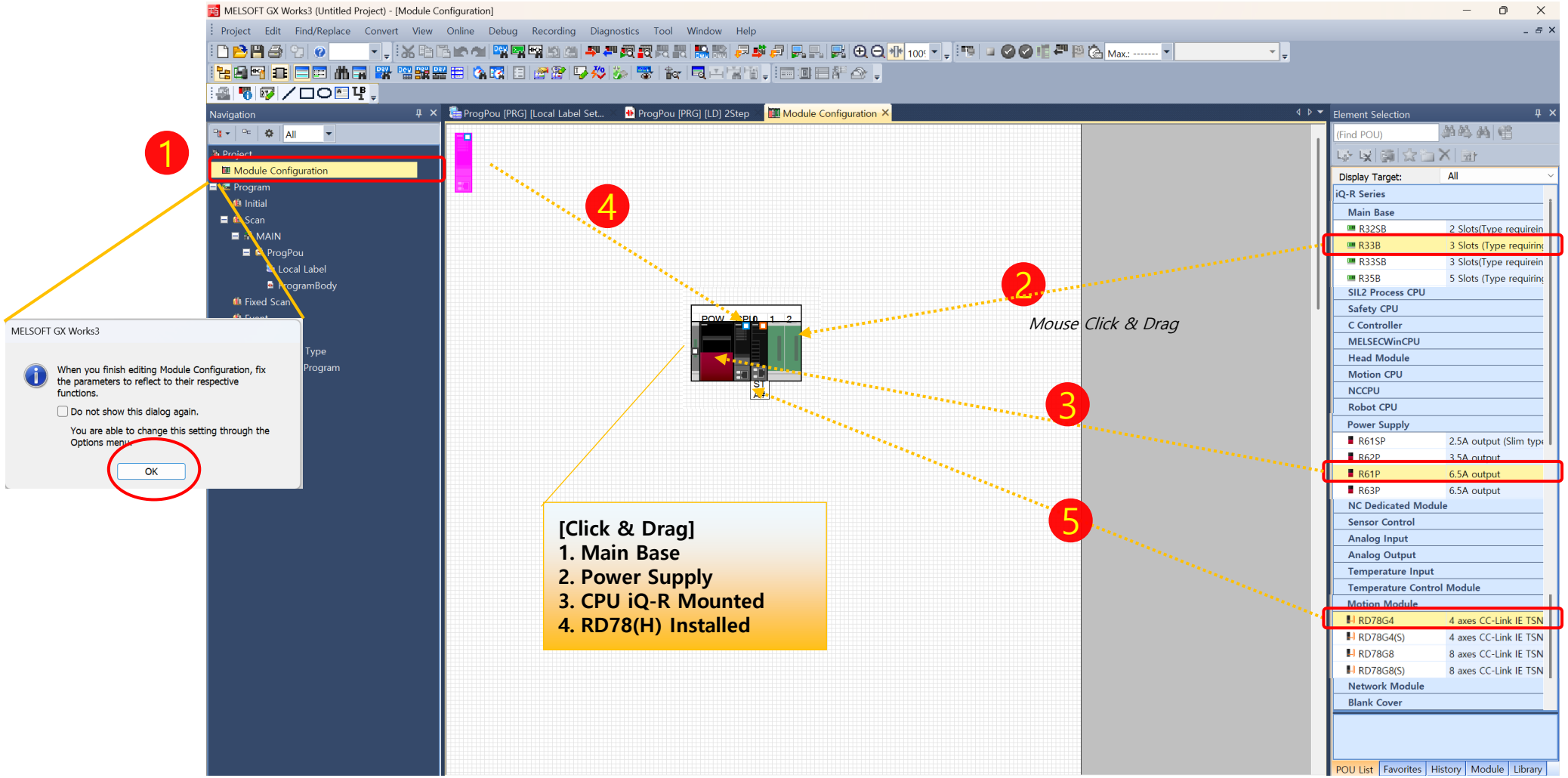
2-2. Module Registration

- **iQ-R CPU Registration**



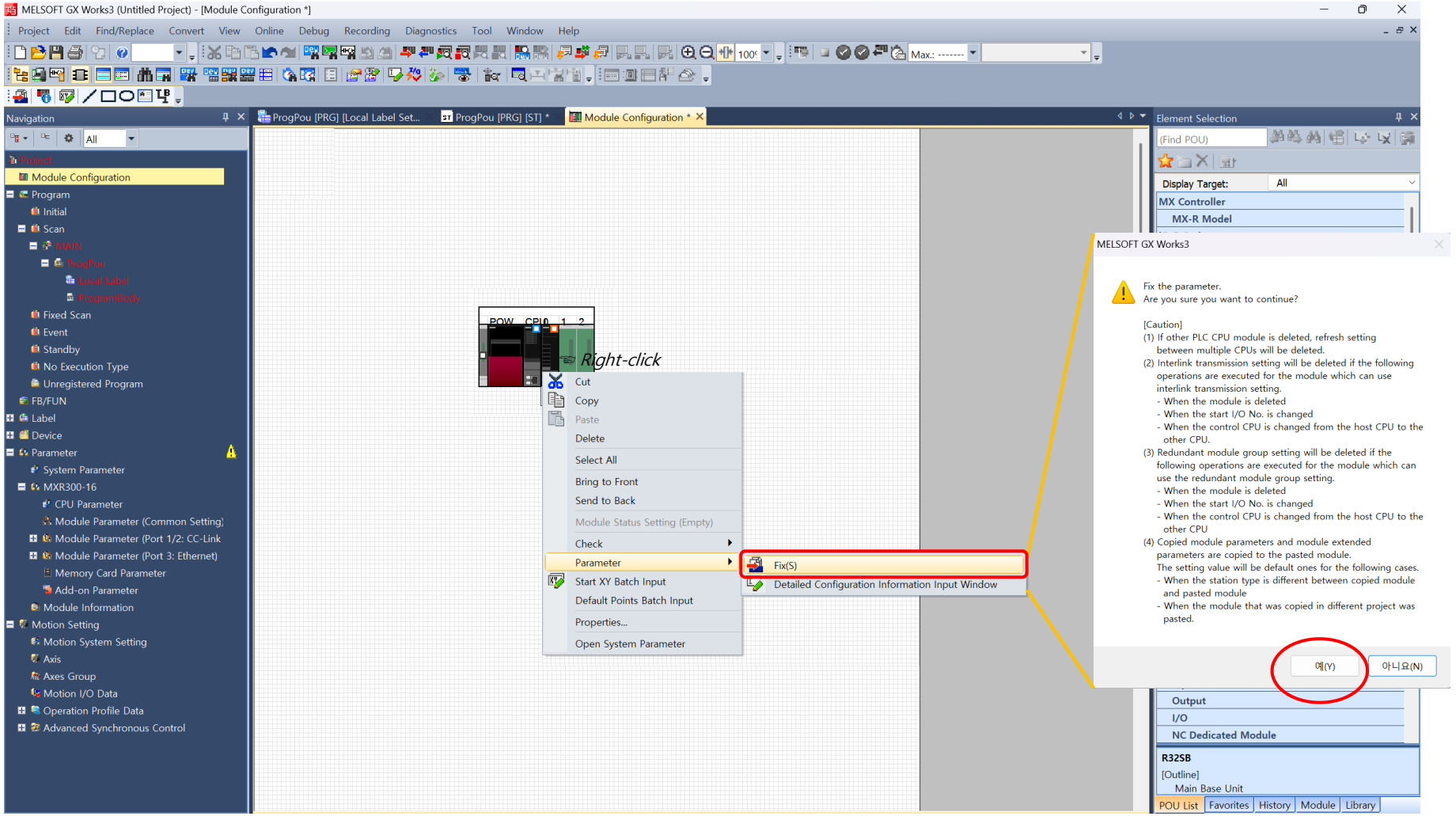
2-3. Module Configuration – H/W

- **Click and drag with the mouse to configure the Main Base, CPU Module, and Power Supply**



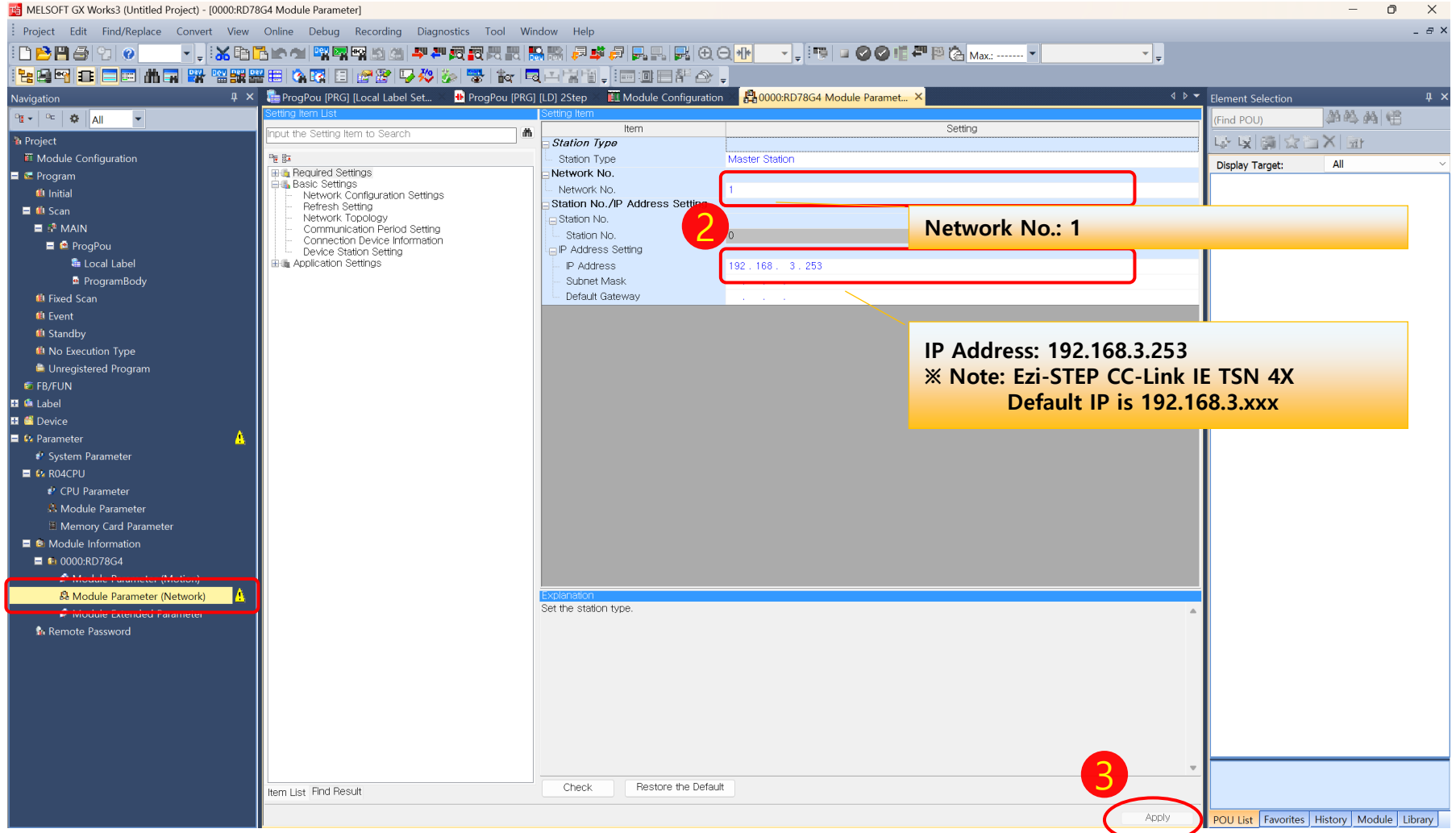
2-3. Module Configuration – H/W

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



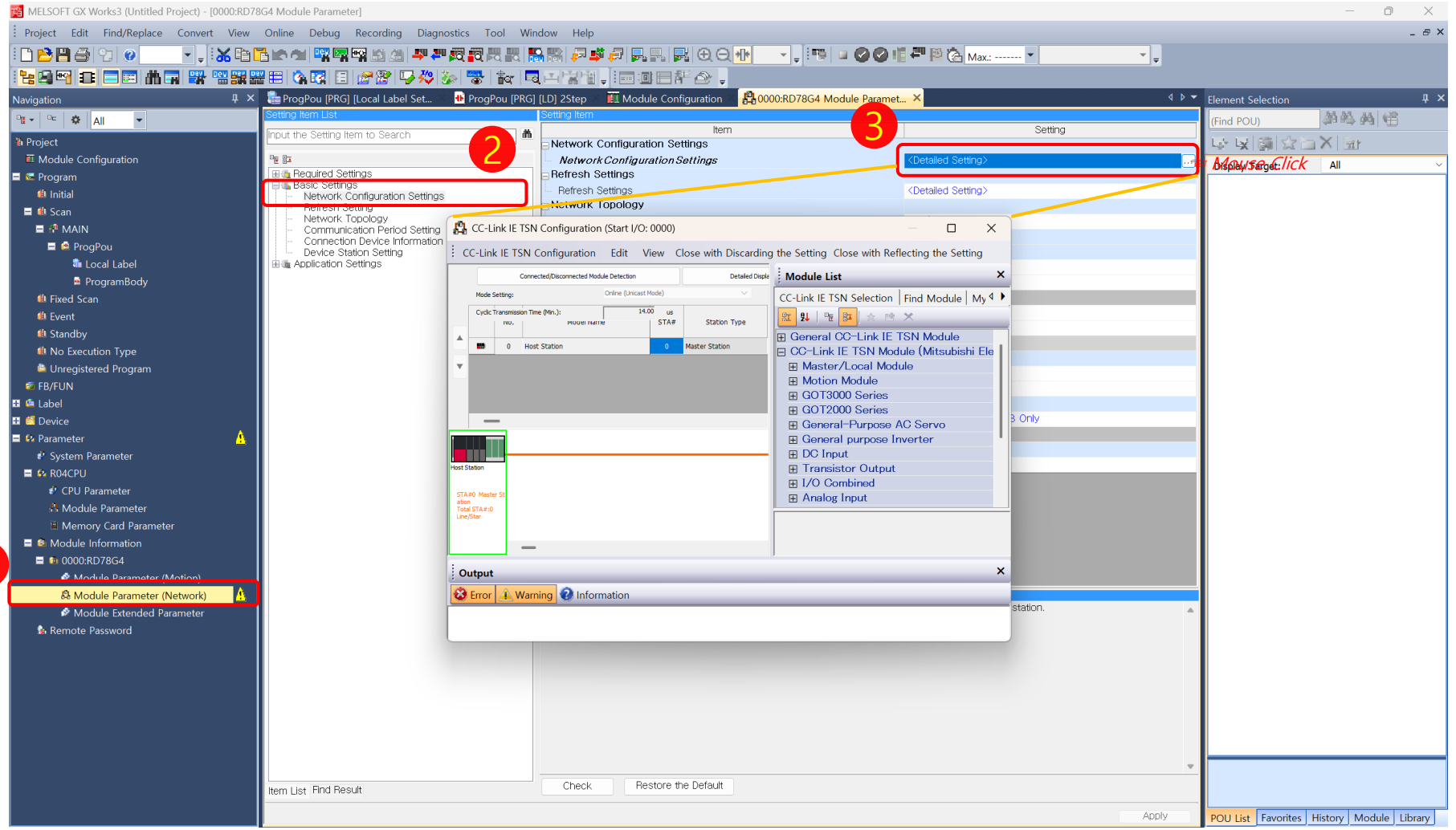
2-4. Parameter / Module Information / 0000:RD78G4

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



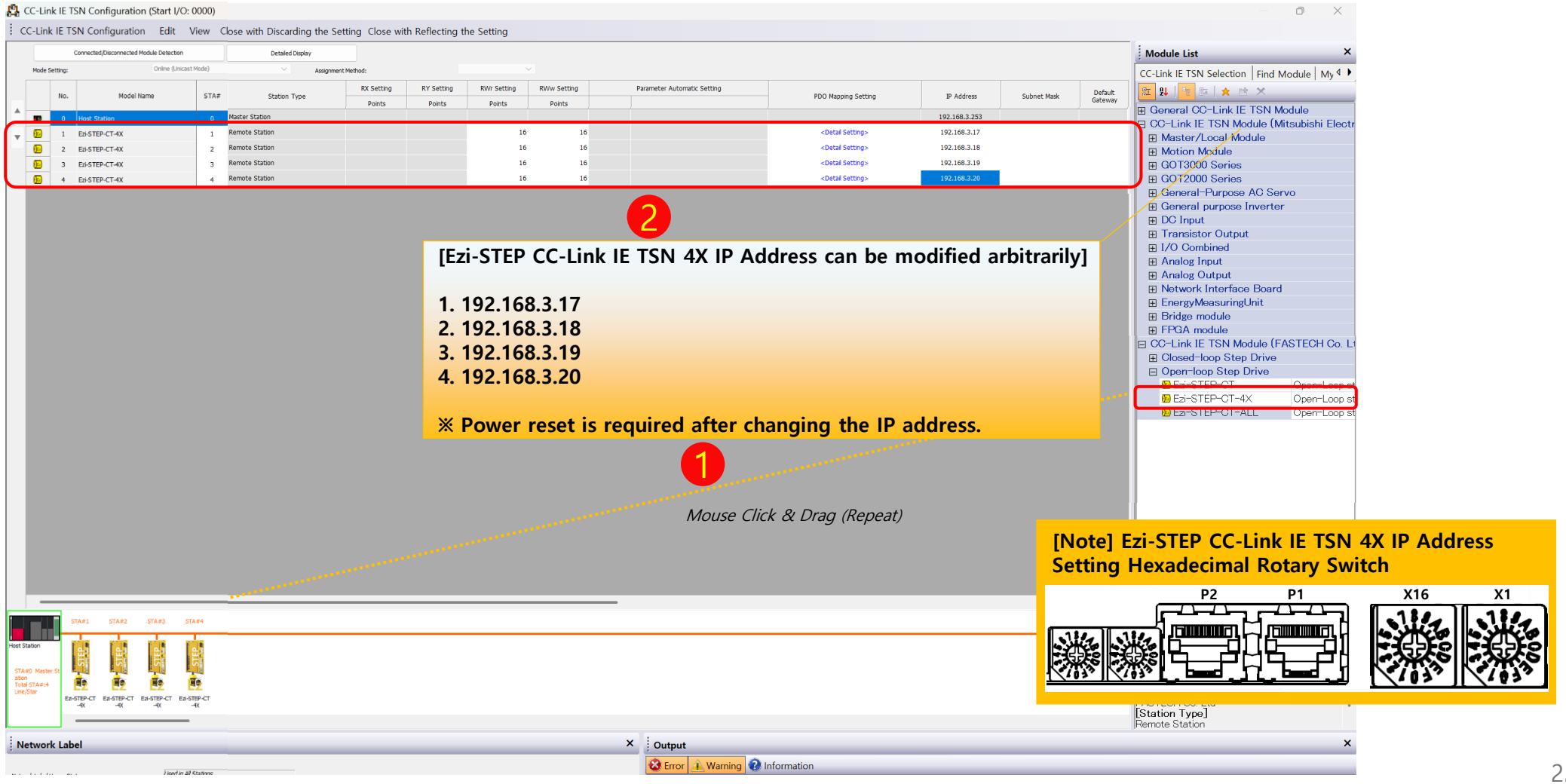
2-4. Parameter / Module Information / 0000:RD78G4

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



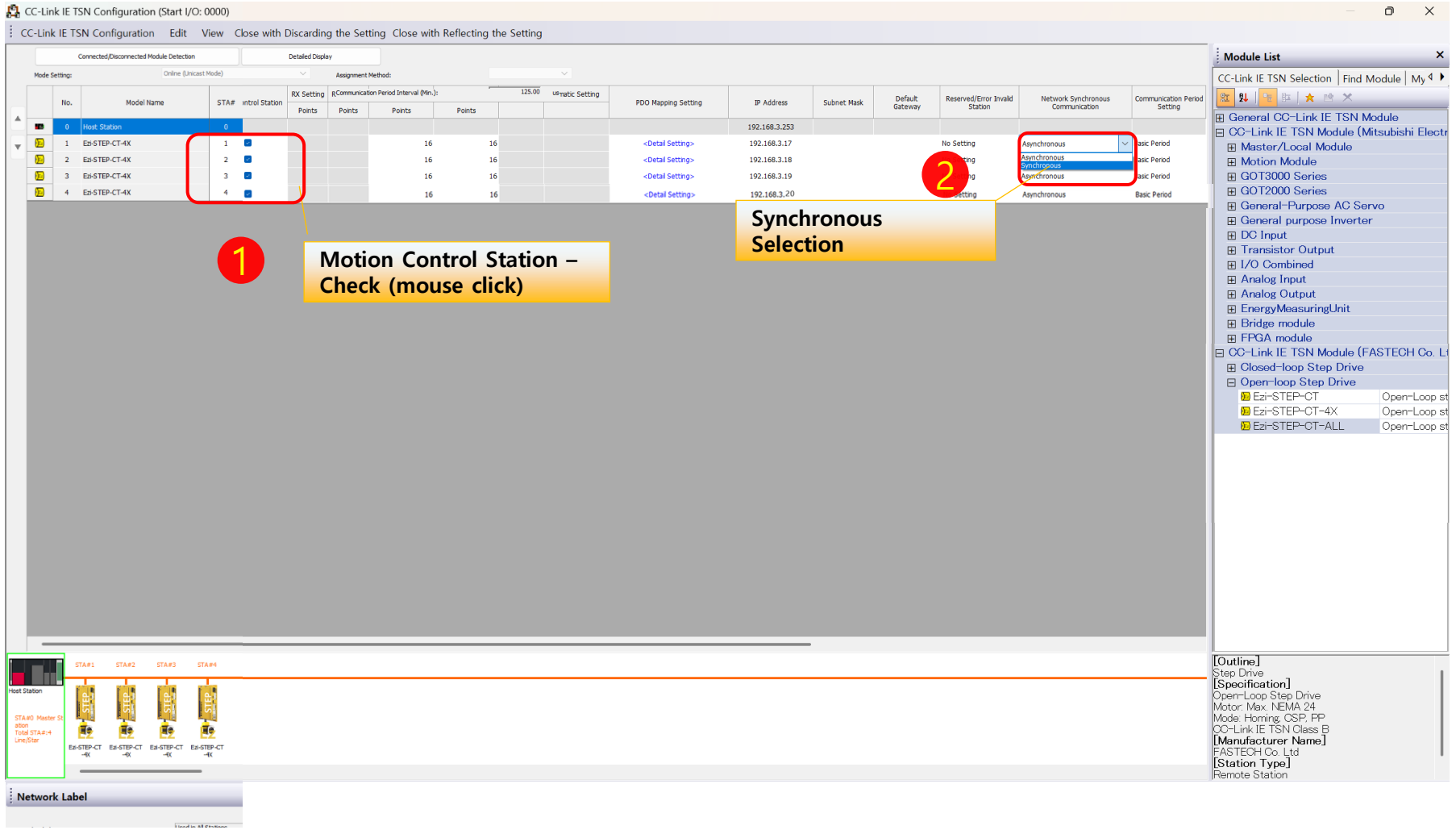
2-4. Parameter / Module Information / 0000:RD78G4

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



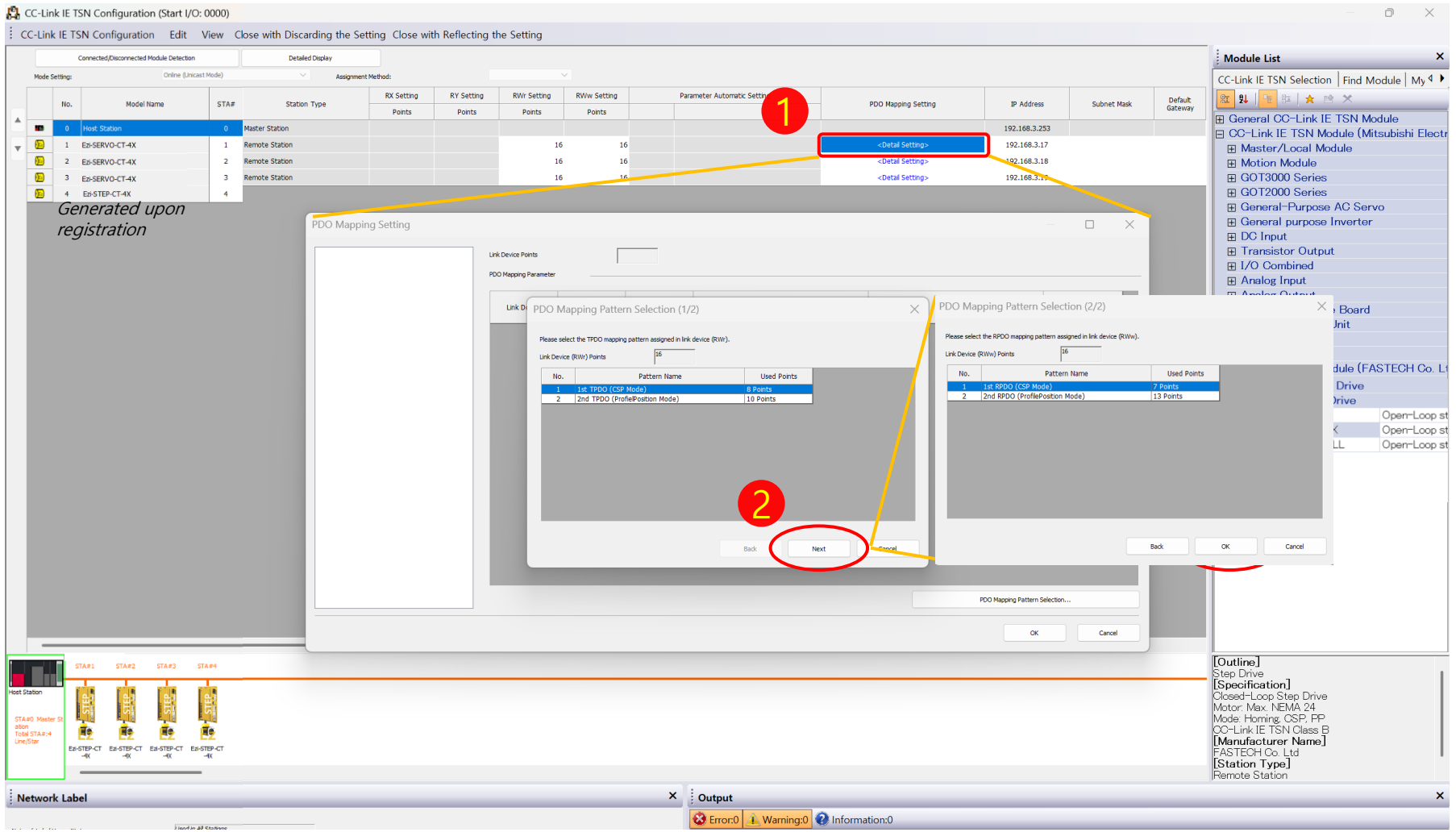
2-4. Parameter / Module Information / 0000:RD78G4

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



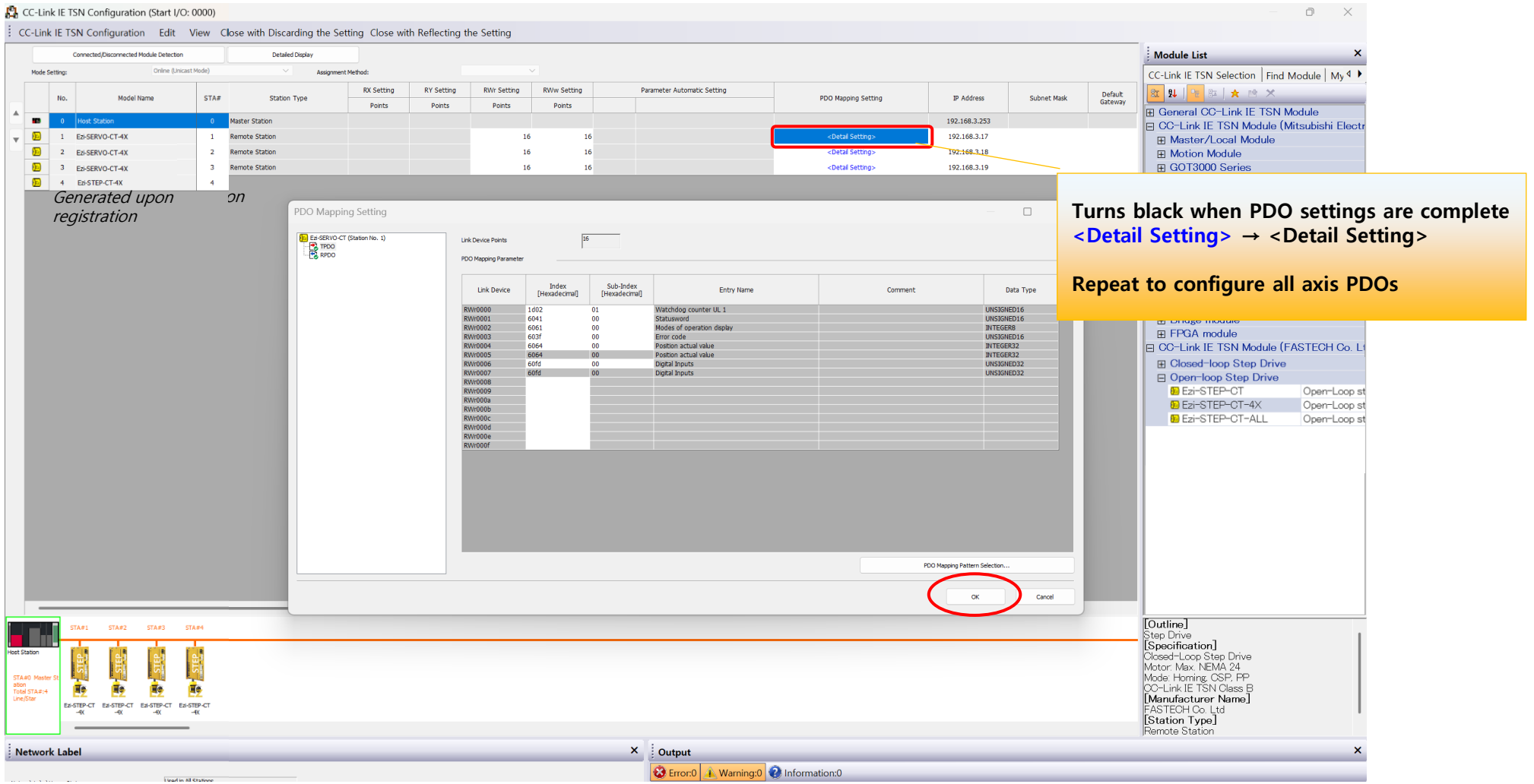
2-4. Parameter / Module Information / 0000:RD78G4

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



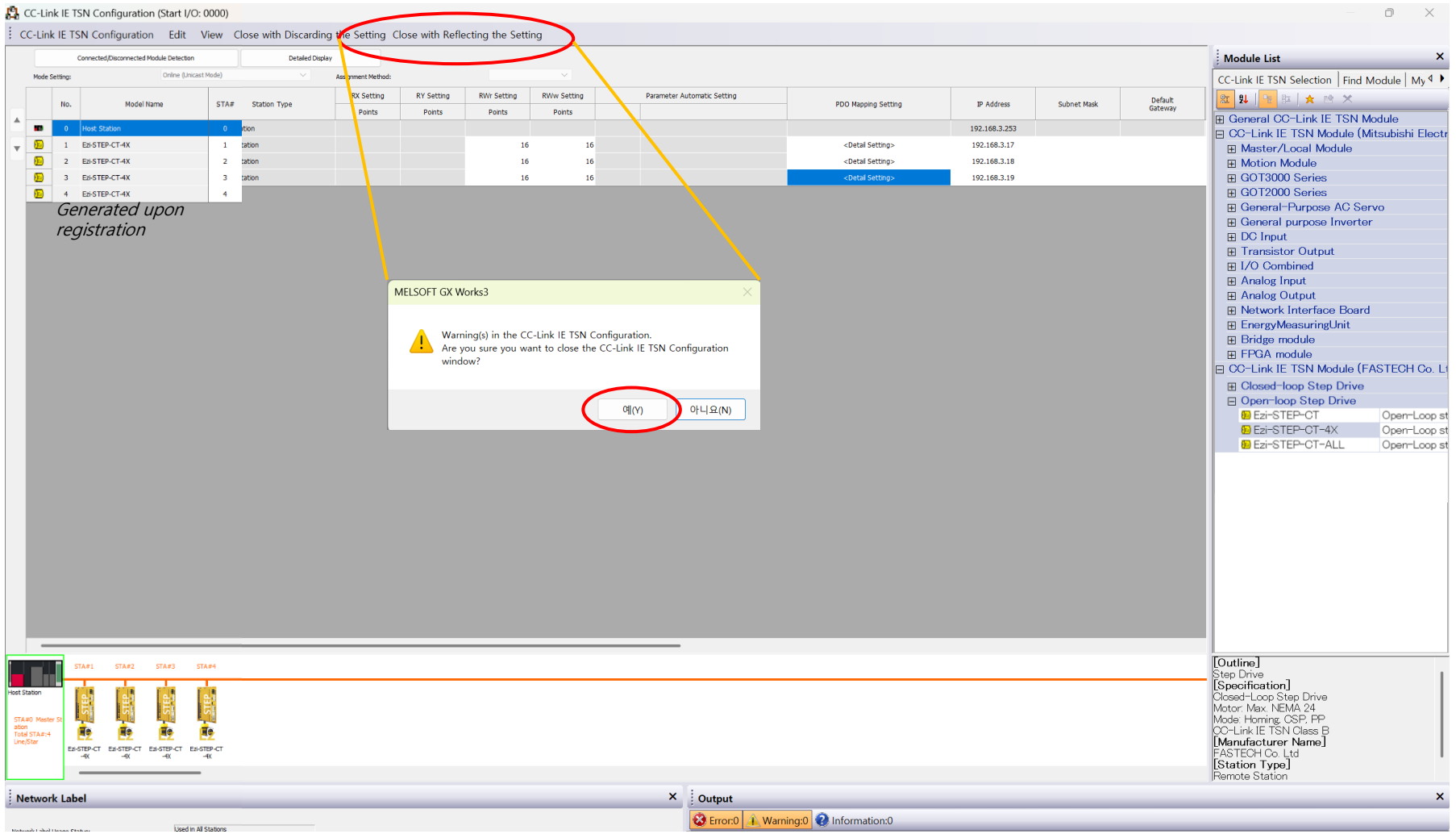
2-4. Parameter / Module Information / 0000:RD78G4

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



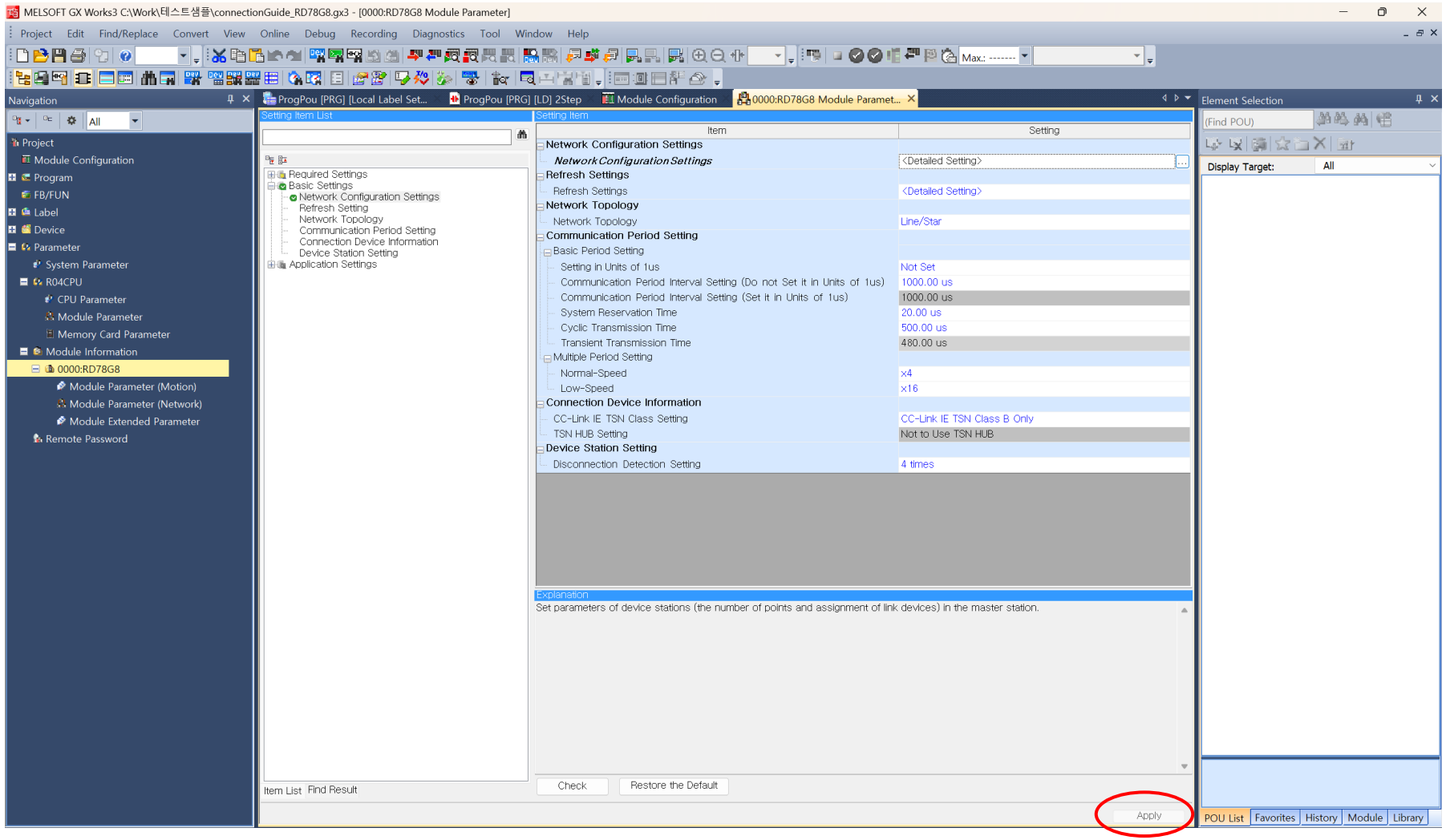
2-4. Parameter / Module Information / 0000:RD78G4

- **CC-Link IE TSN Module Setting Applied**



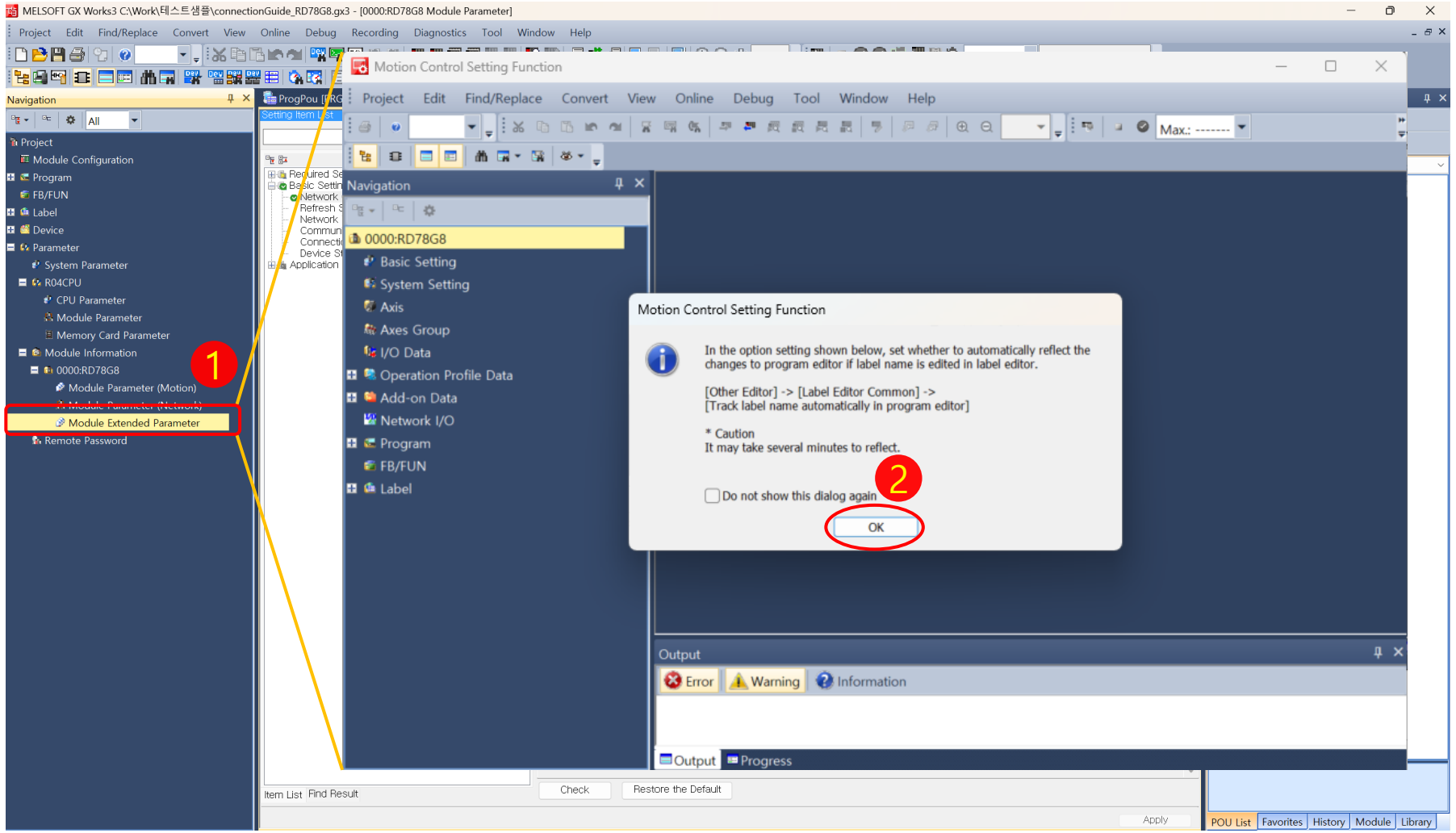
2-4. Parameter / Module Information / 0000:RD78G4

- **Apply Network Configuration Settings**



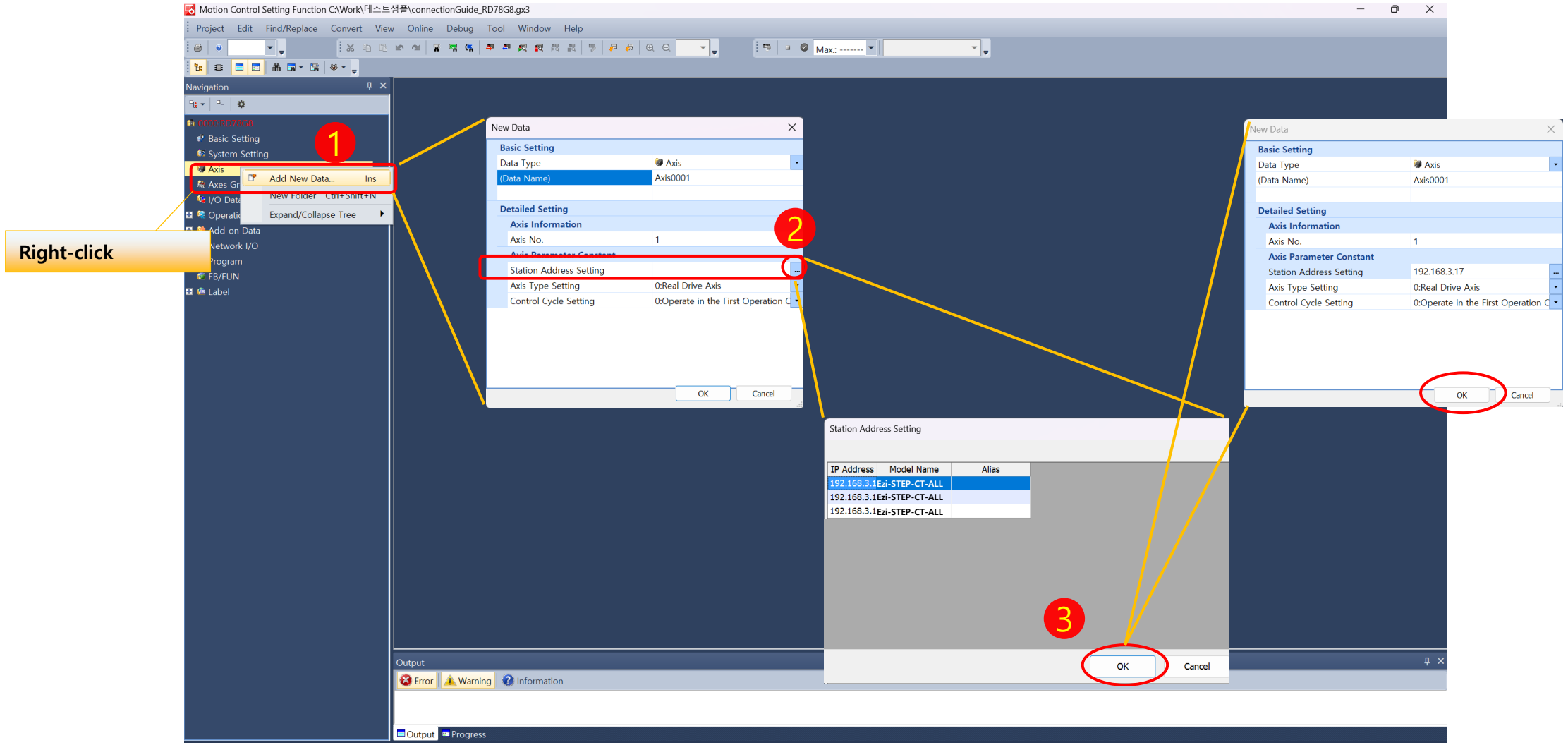
2-5. Module Extended Parameter – Motion Control Setting Function

- **Module Extended Parameter**



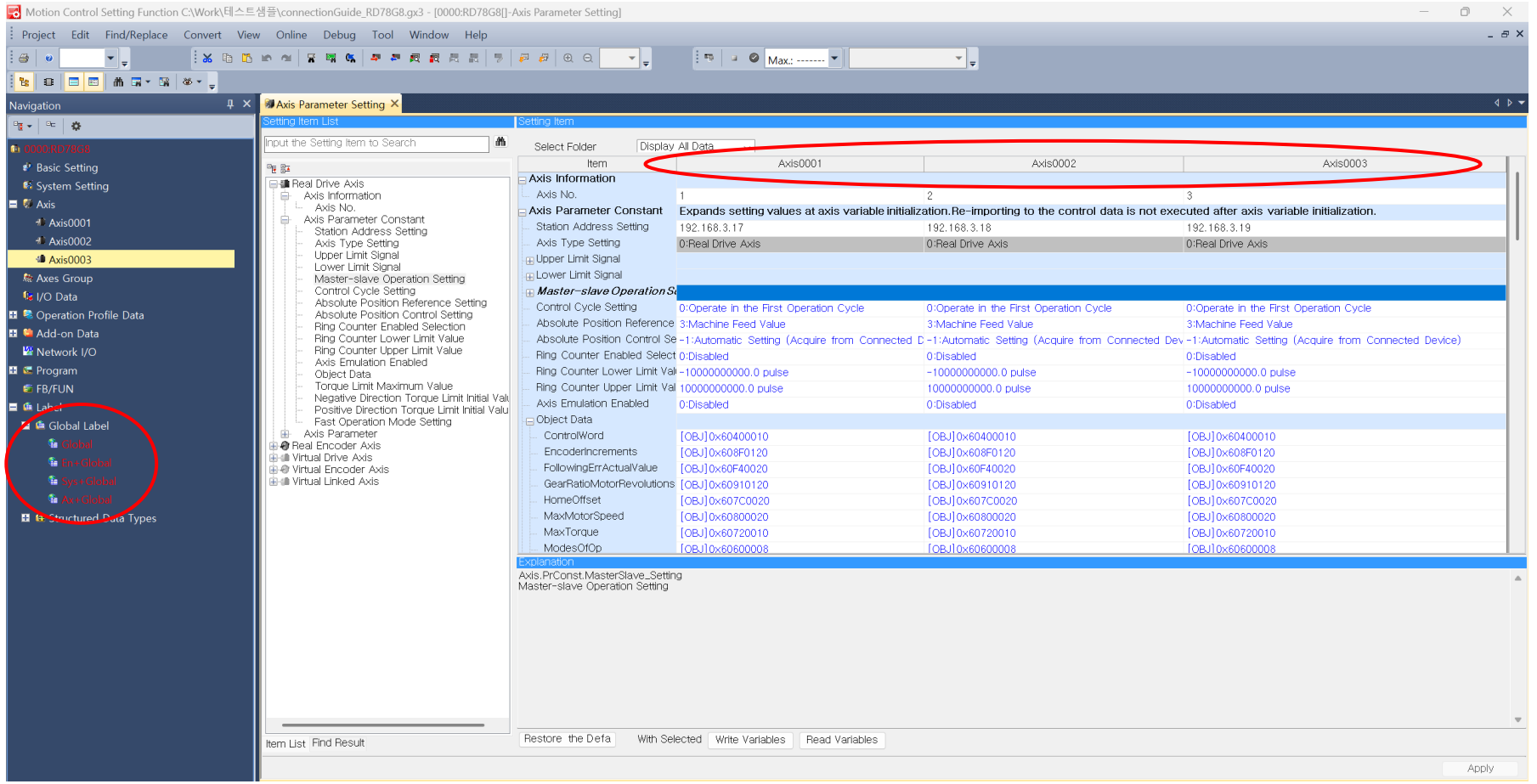
2-5. Module Extended Parameter – Motion Control Setting Function

- **Axis - Create Axis0001**



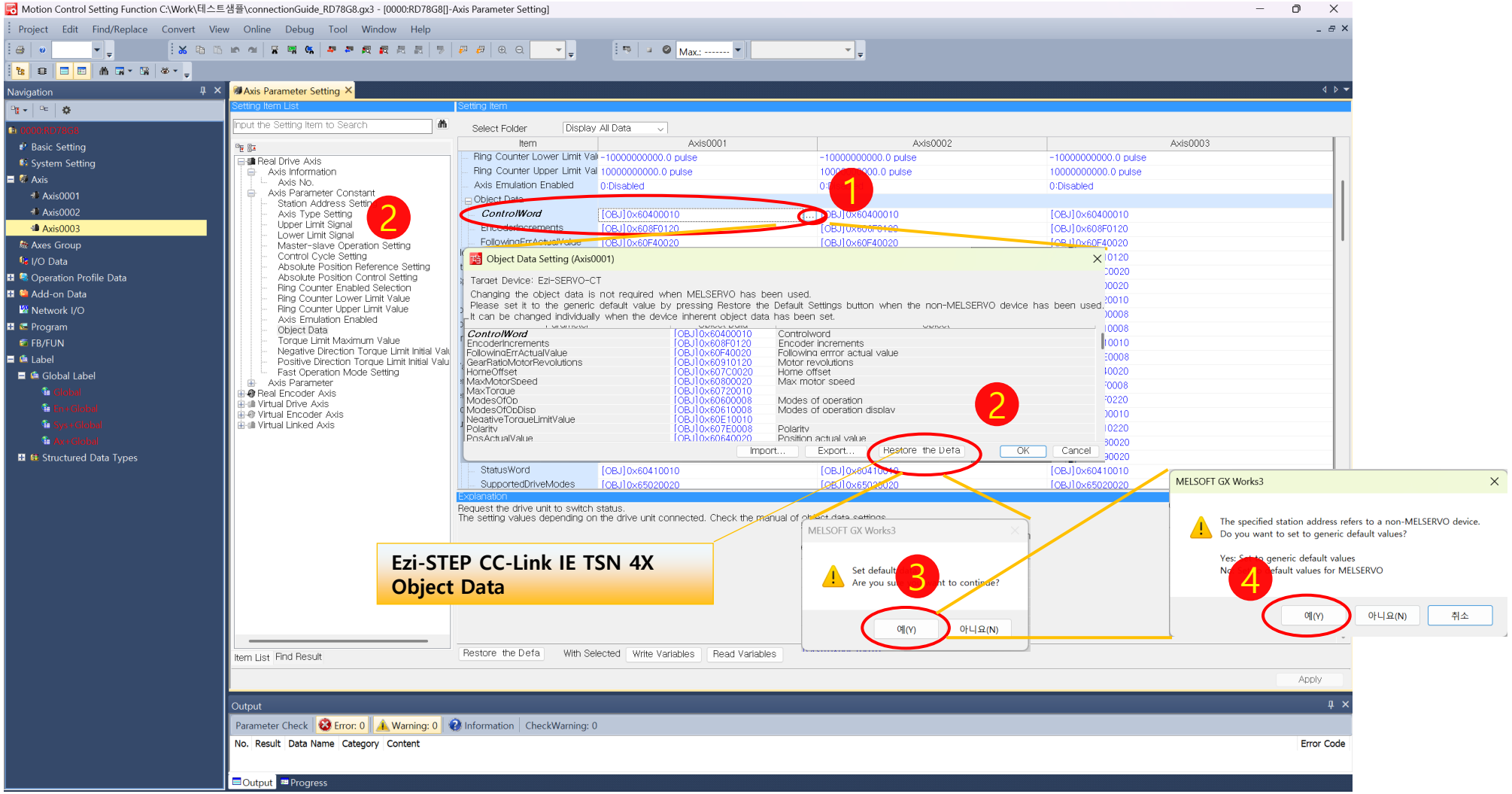
2-5. Module Extended Parameter – Motion Control Setting Function

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



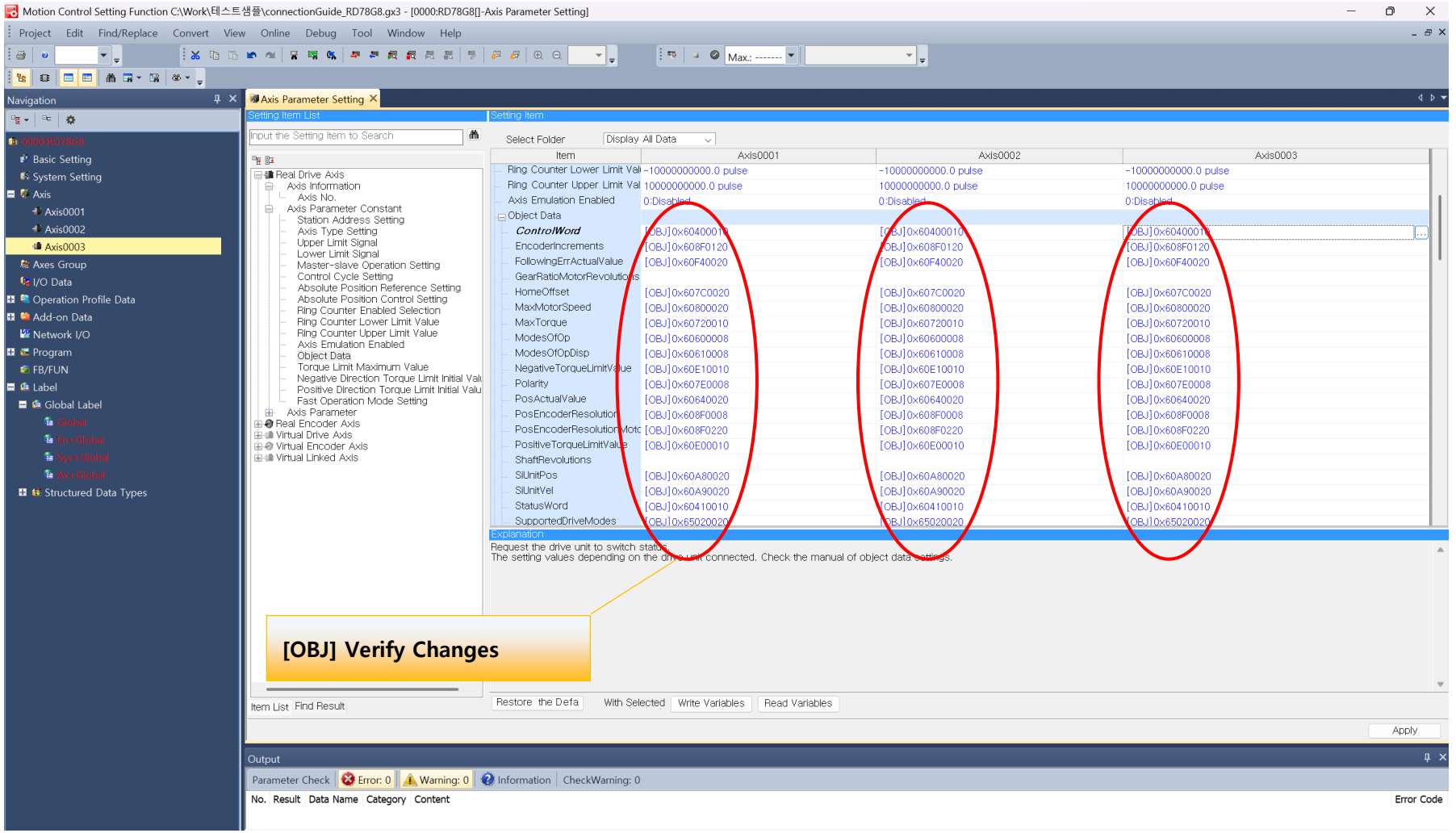
2-5. Module Extended Parameter – Motion Control Setting Function

- **Axis - Axis0001... - Object Data Setting (Set as Ezi-STEP CC-Link IE TSN 4X Object Data)**



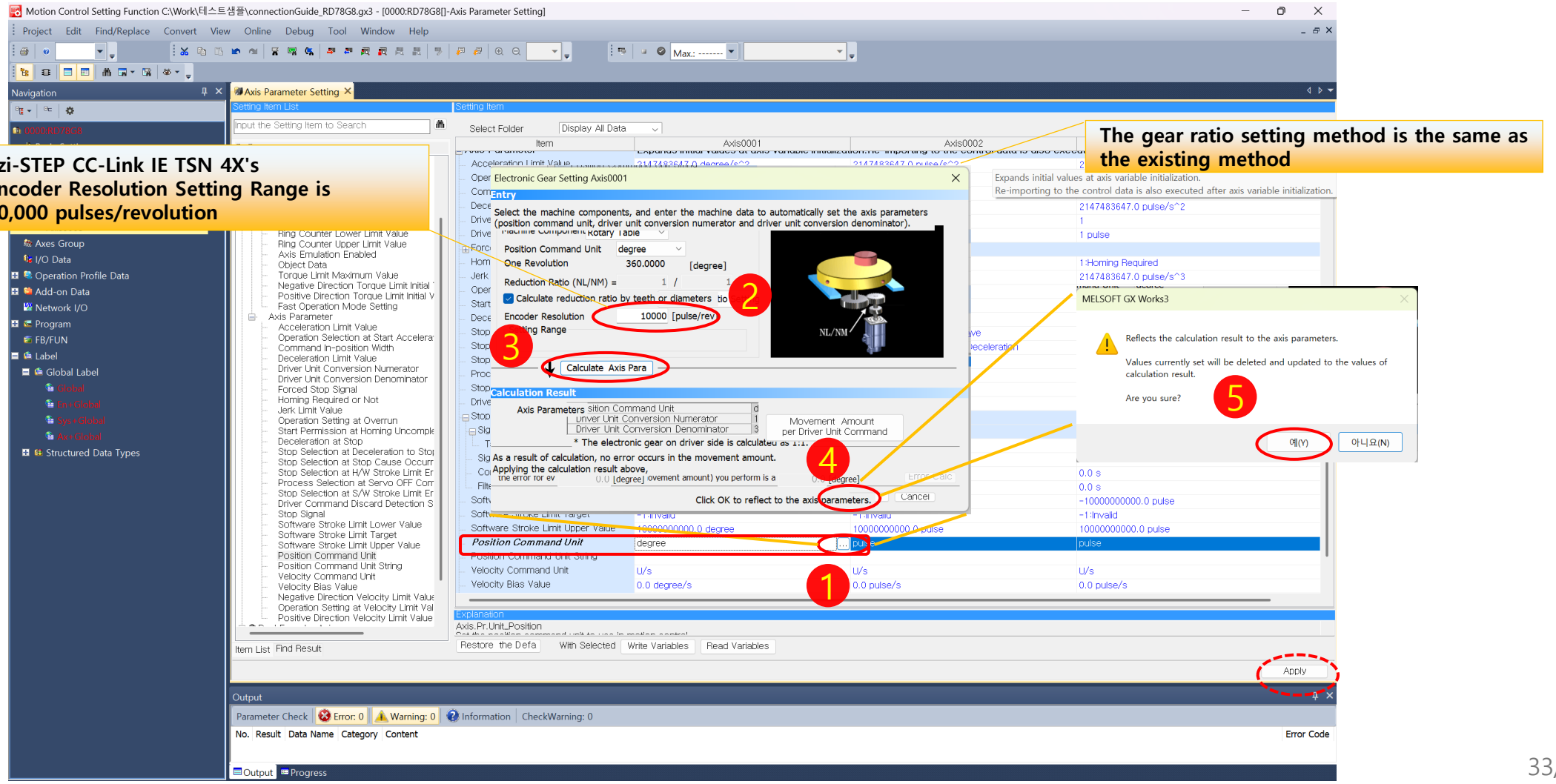
2-5. Module Extended Parameter – Motion Control Setting Function

- **Axis - Axis0001... - Object Data Setting (Set as Ezi-STEP CC-Link IE TSN 4X Object Data)**



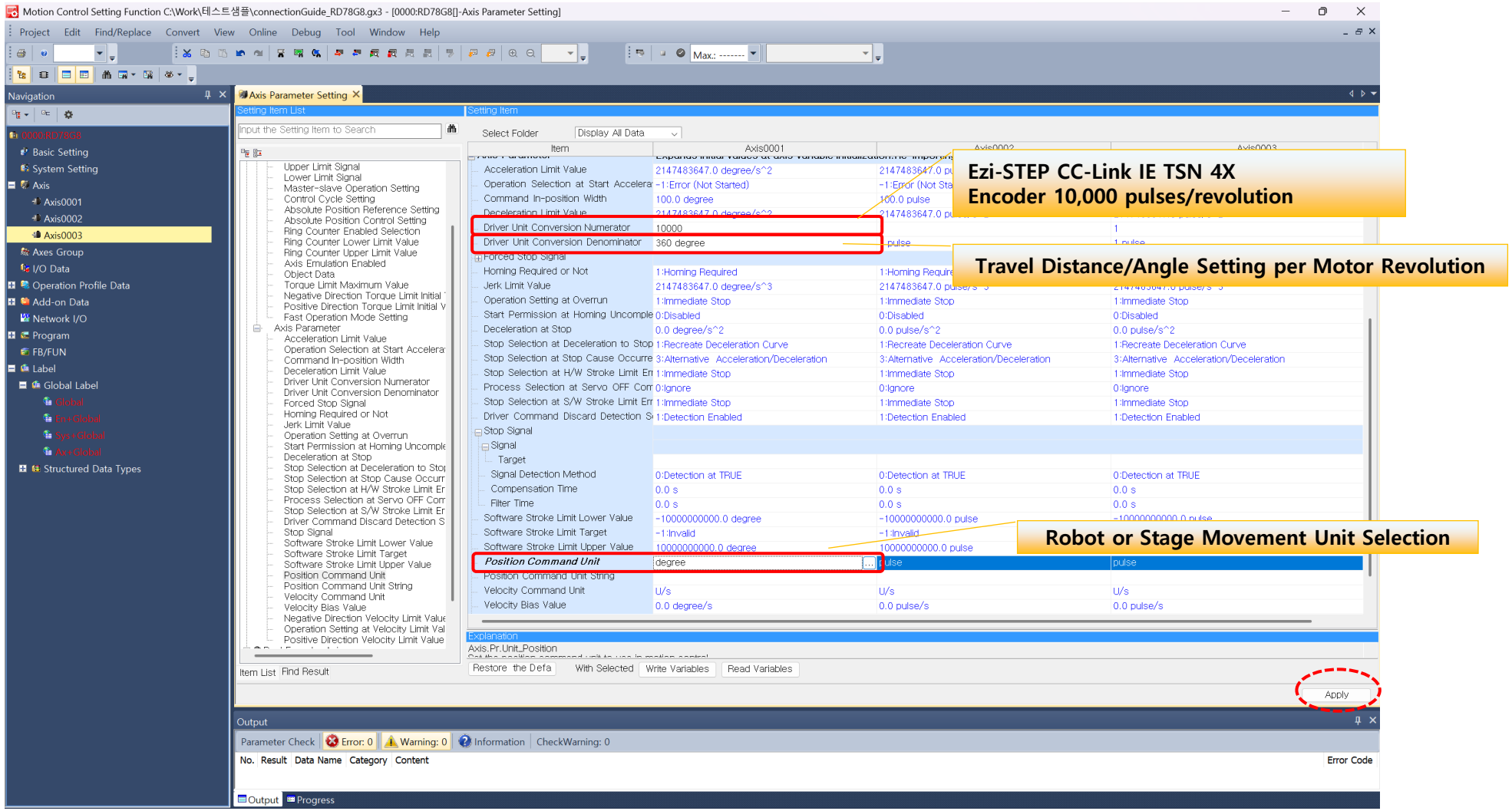
2-5. Module Extended Parameter – Motion Control Setting Function

- **Axis – Position Command Unit (Gear Ratio Setting)** ※ Ezi-STEP 4X 10,000 ppr



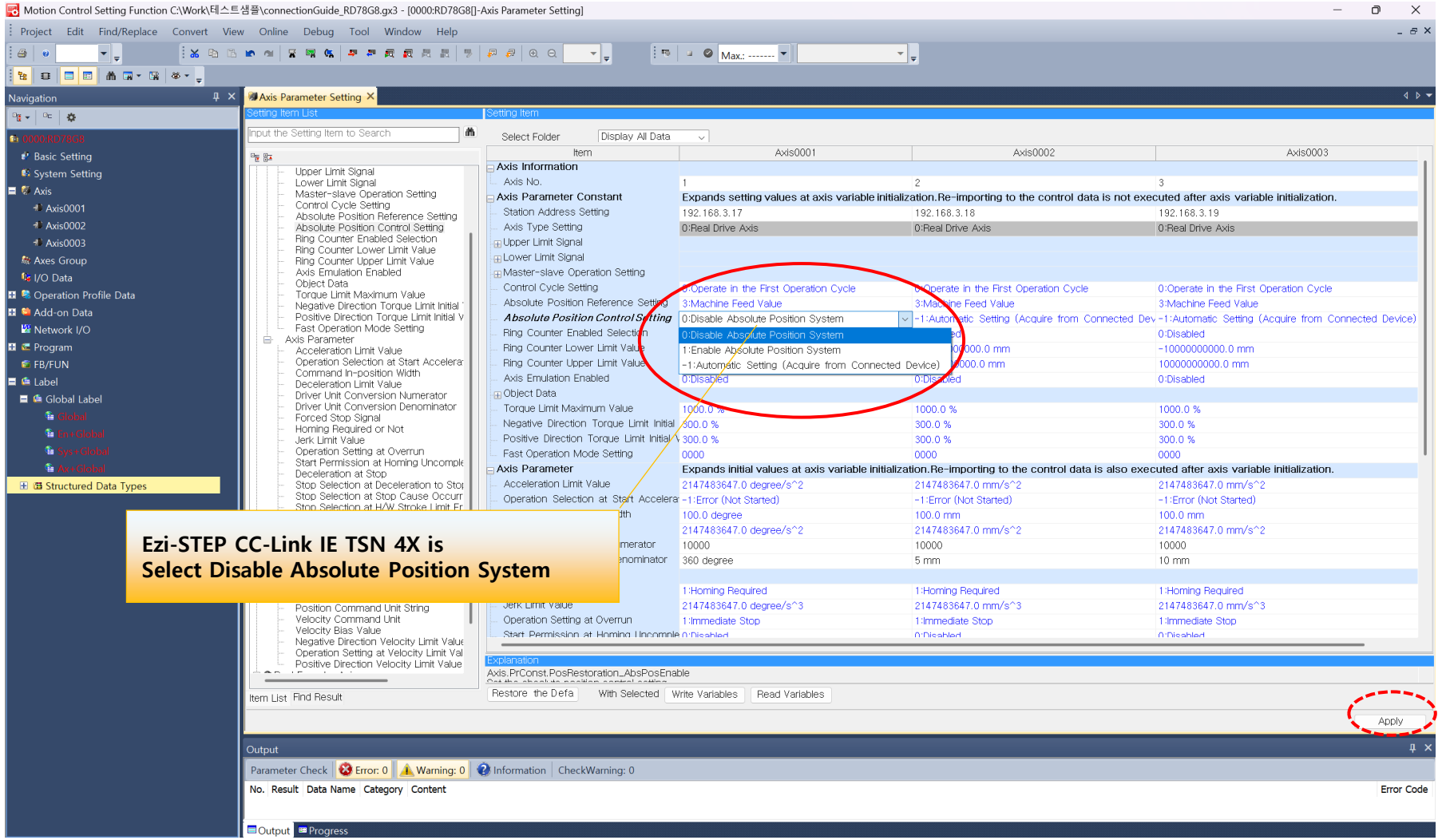
2-5. Module Extended Parameter – Motion Control Setting Function

- **Axis – Position Command Unit (Gear Ratio Setting)** ※ Ezi-STEP 4X 10,000 ppr



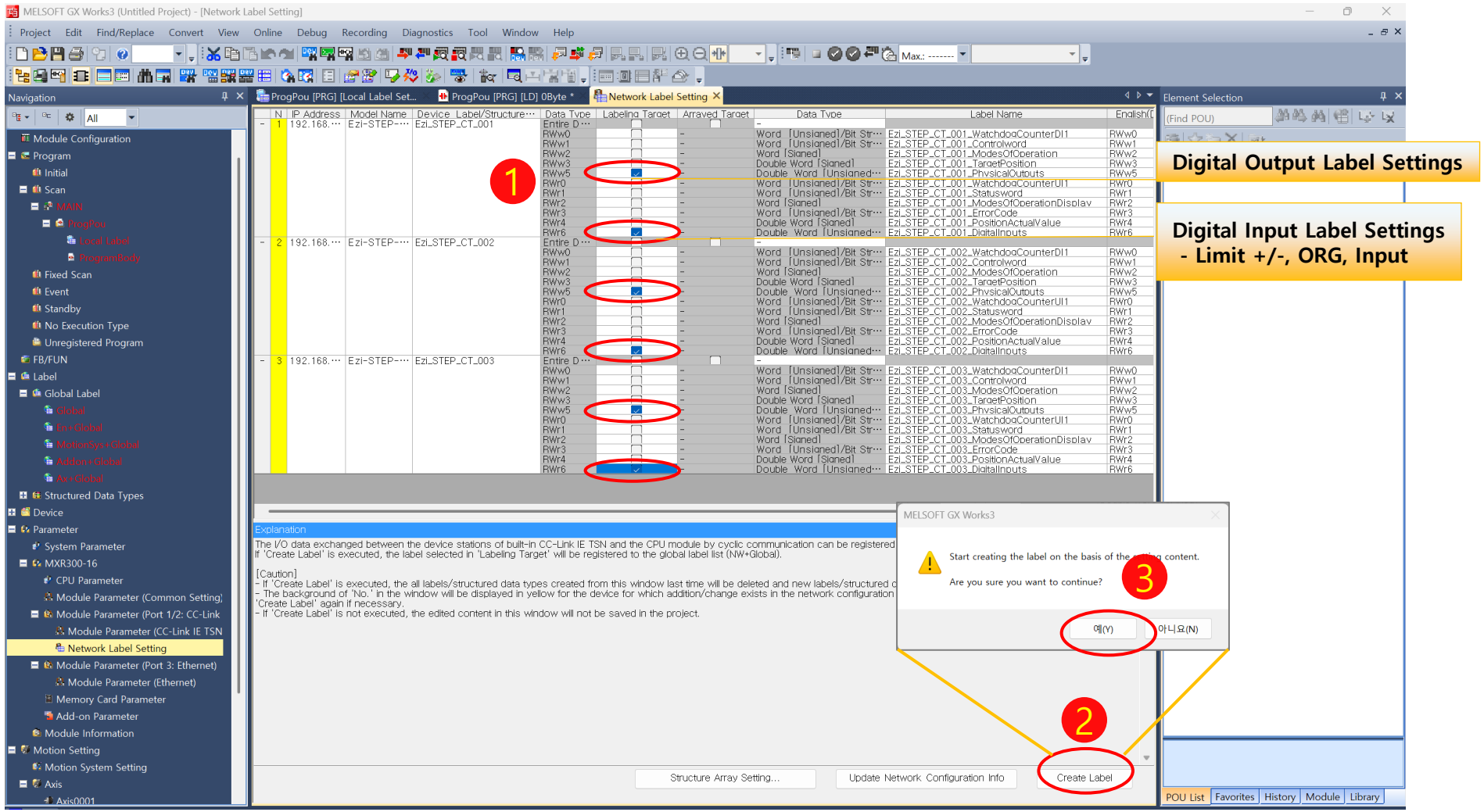
2-5. Module Extended Parameter – Motion Control Setting Function

- **Axis – Absolute Position Control Setting: Set to Disable**



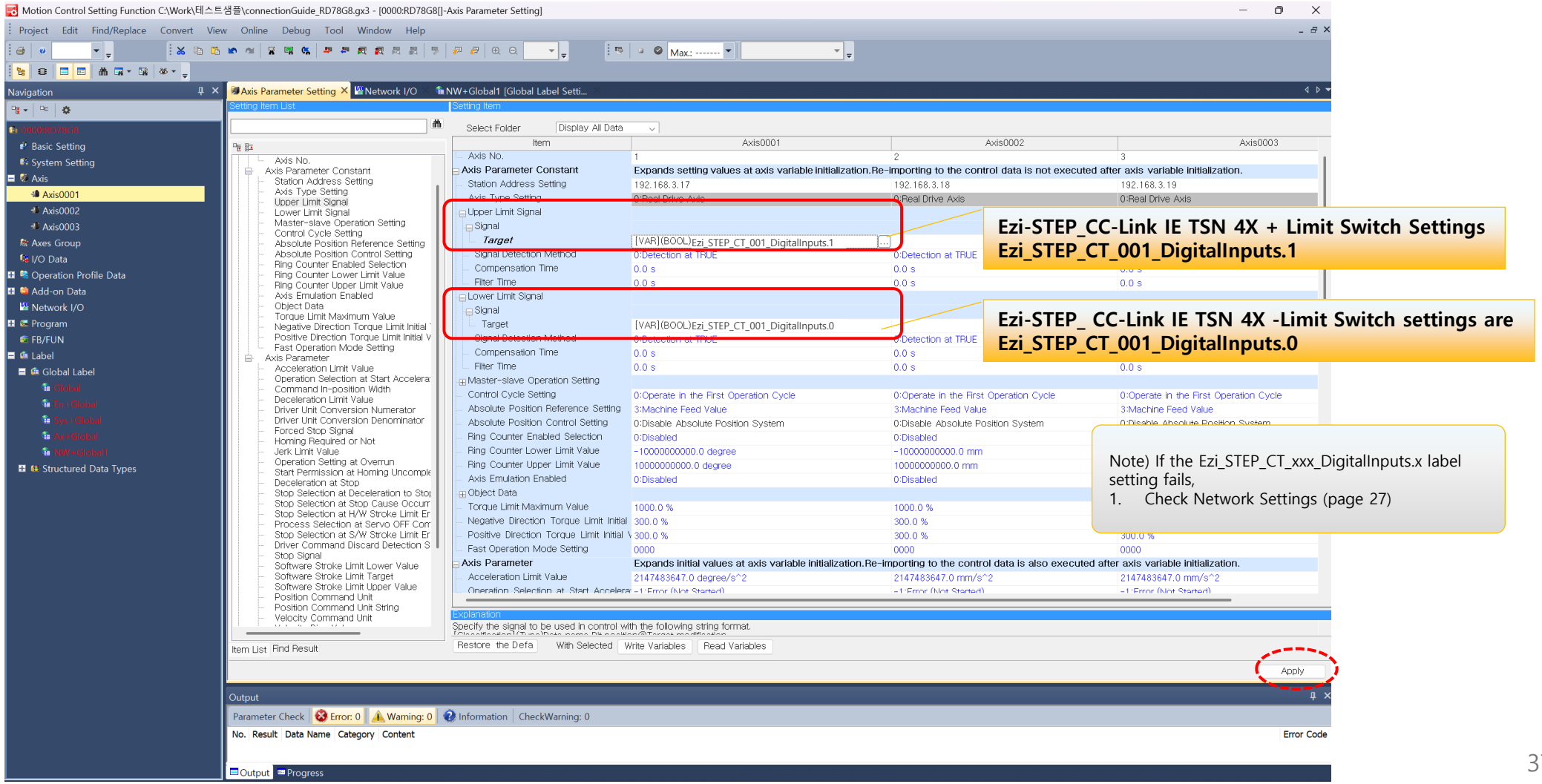
2-5. Module Extended Parameter – Motion Control Setting Function

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



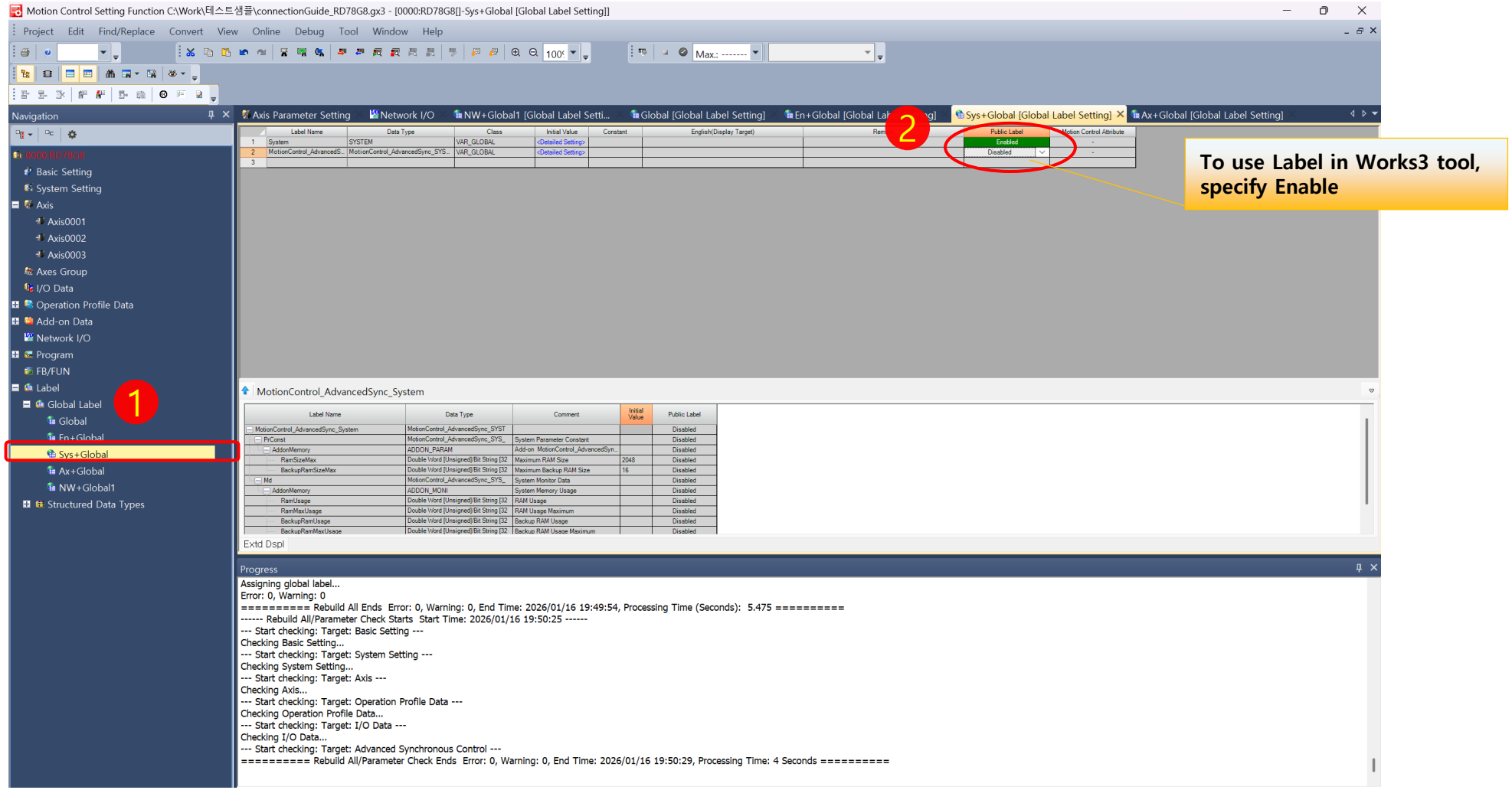
2-5. Module Extended Parameter – Motion Control Setting Function

- **Axis – Upper/Lower Limit Signal – Signal Detection Method setting**



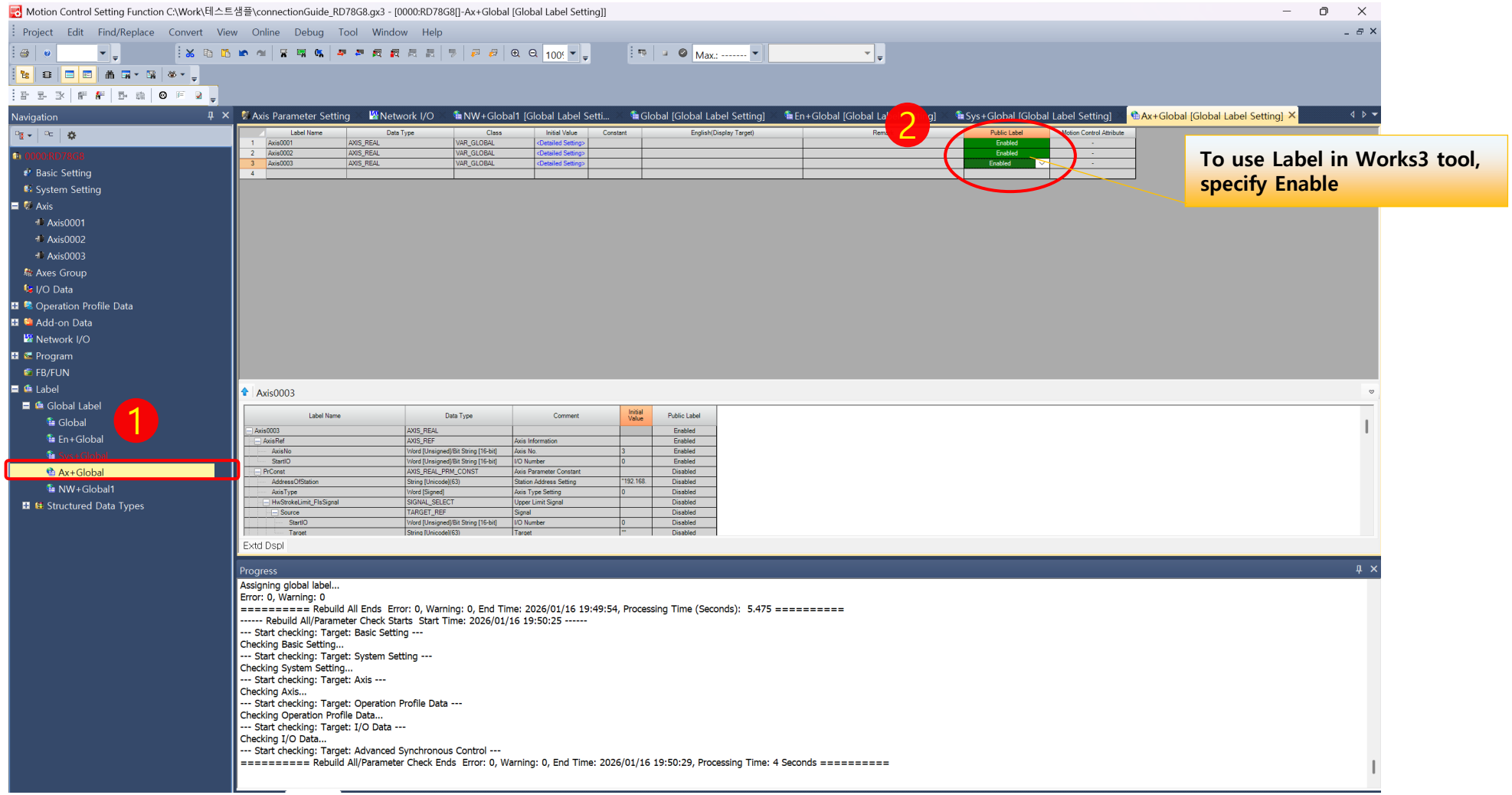
2-5. Module Extended Parameter – Motion Control Setting Function

- **Label – Global Label – System + Global**



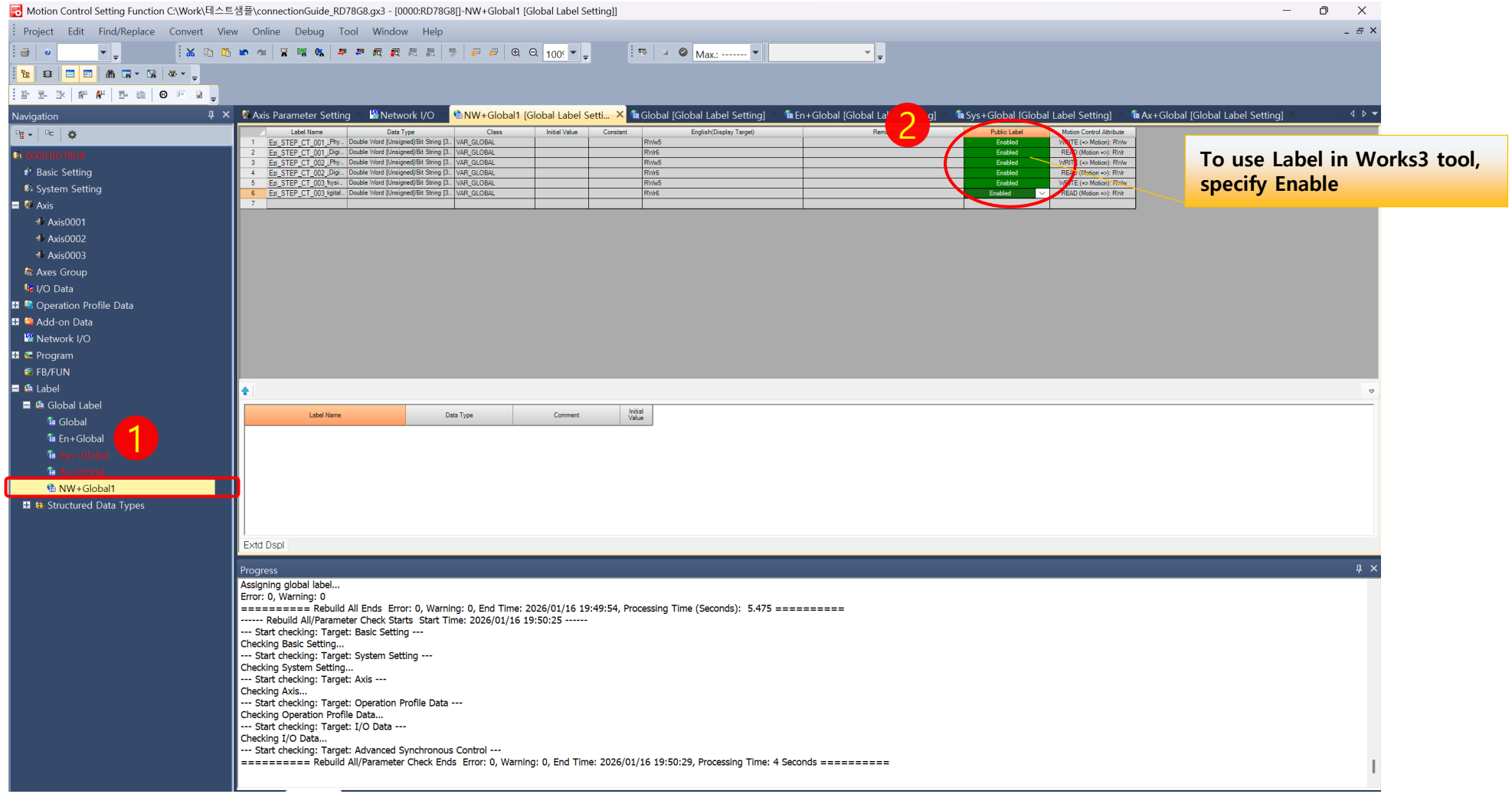
2-5. Module Extended Parameter – Motion Control Setting Function

- **Label – Global Label – Ax+Global**



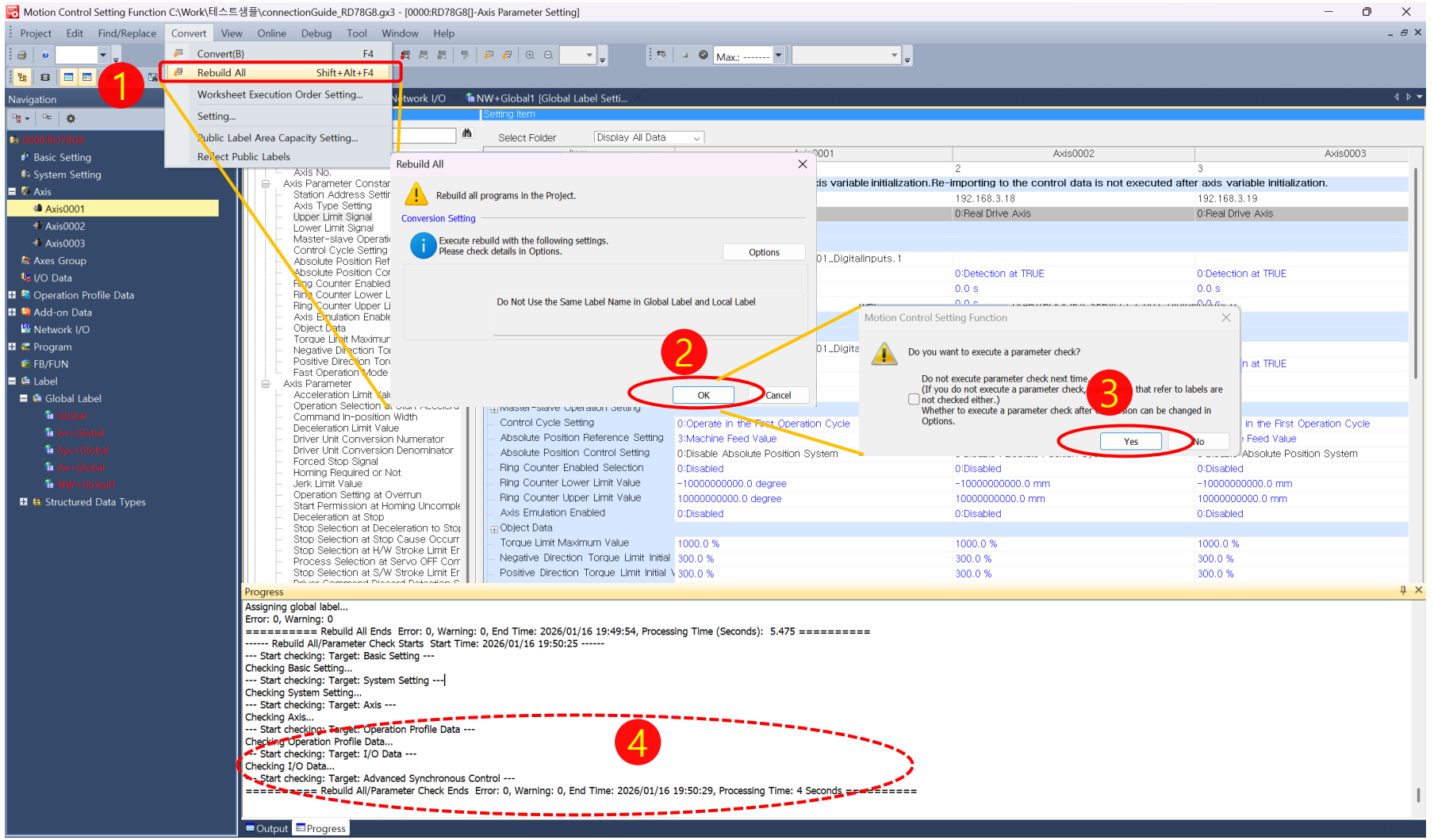
2-5. Module Extended Parameter – Motion Control Setting Function

- **Label – Global Label – System + Global**



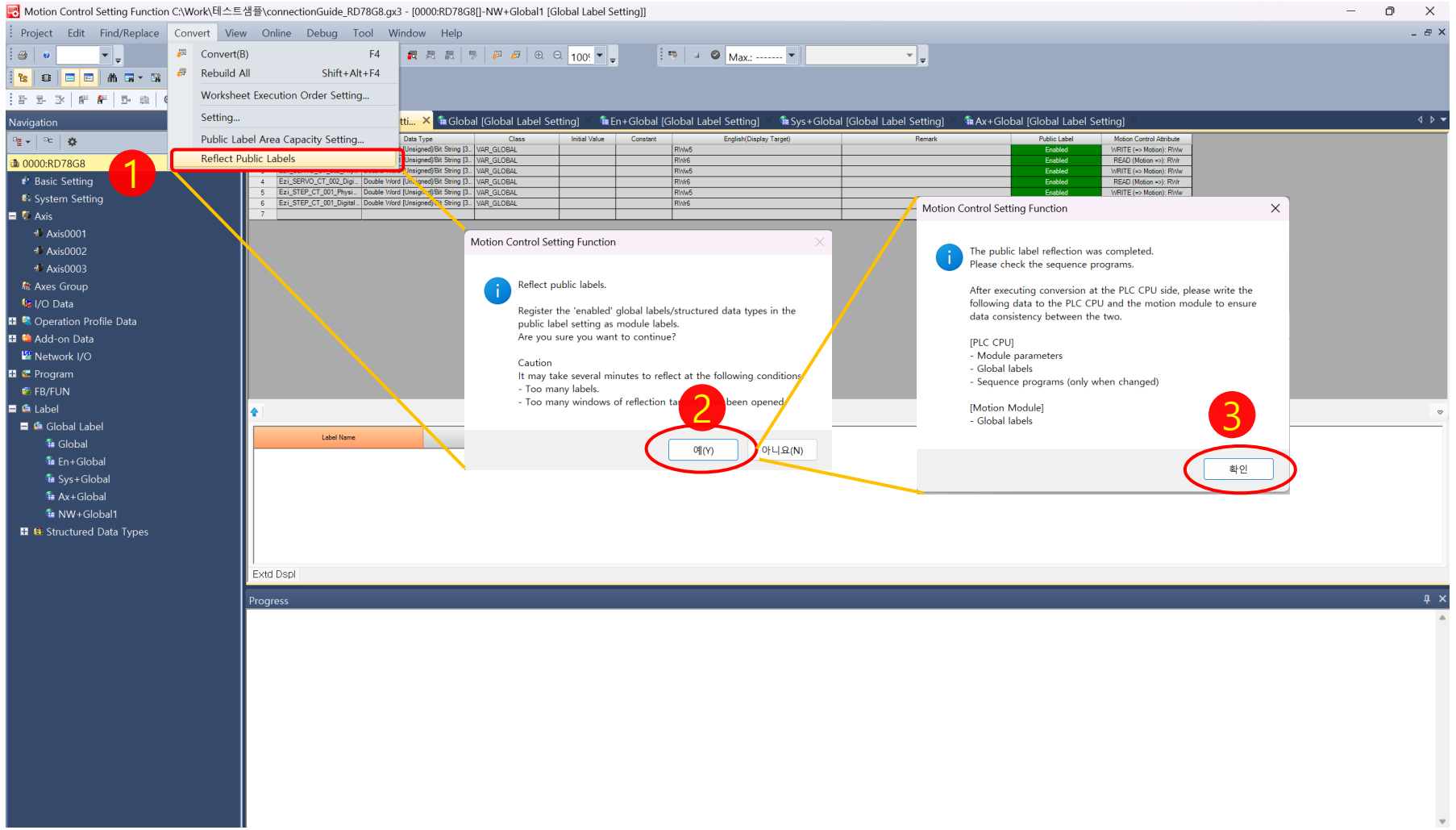
2-5. Module Extended Parameter – Motion Control Setting Function

- **Convert – Rebuild All → Parameter Check**



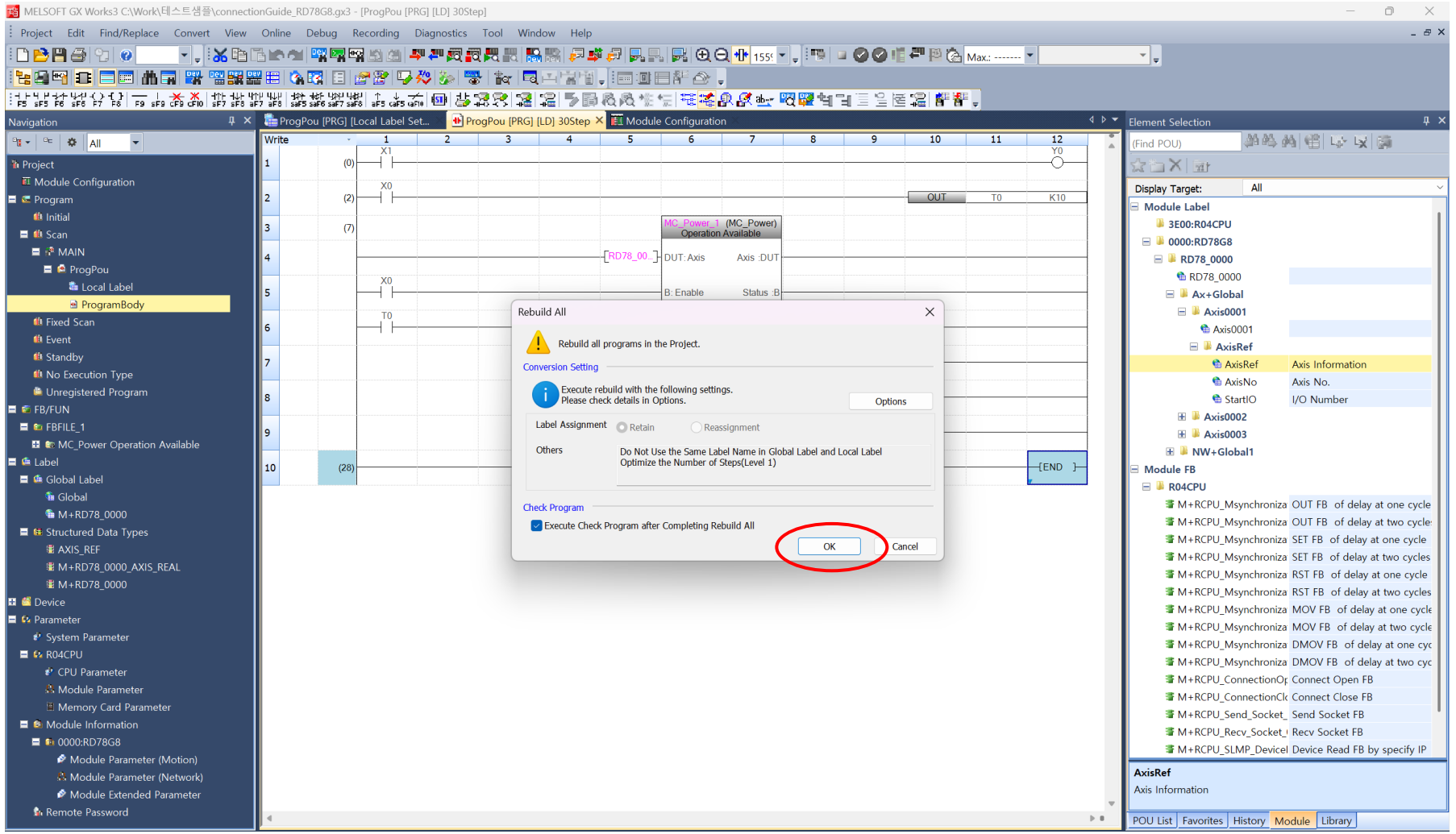
2-5. Module Extended Parameter – Motion Control Setting Function

- **Reflect Public Labels**



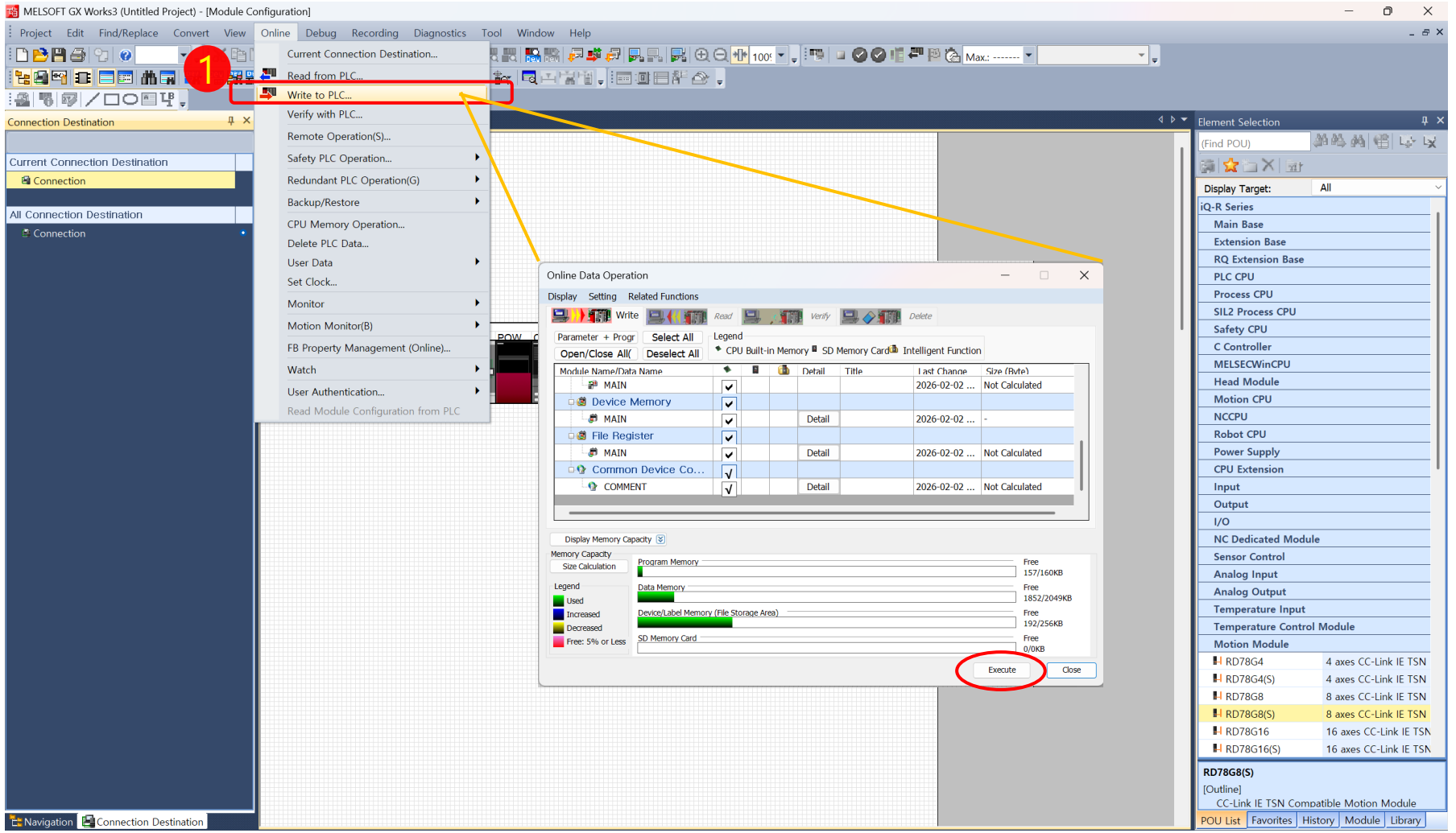
2-6. Convert

- **Convert – Rebuild All**



2-7. Write to PLC

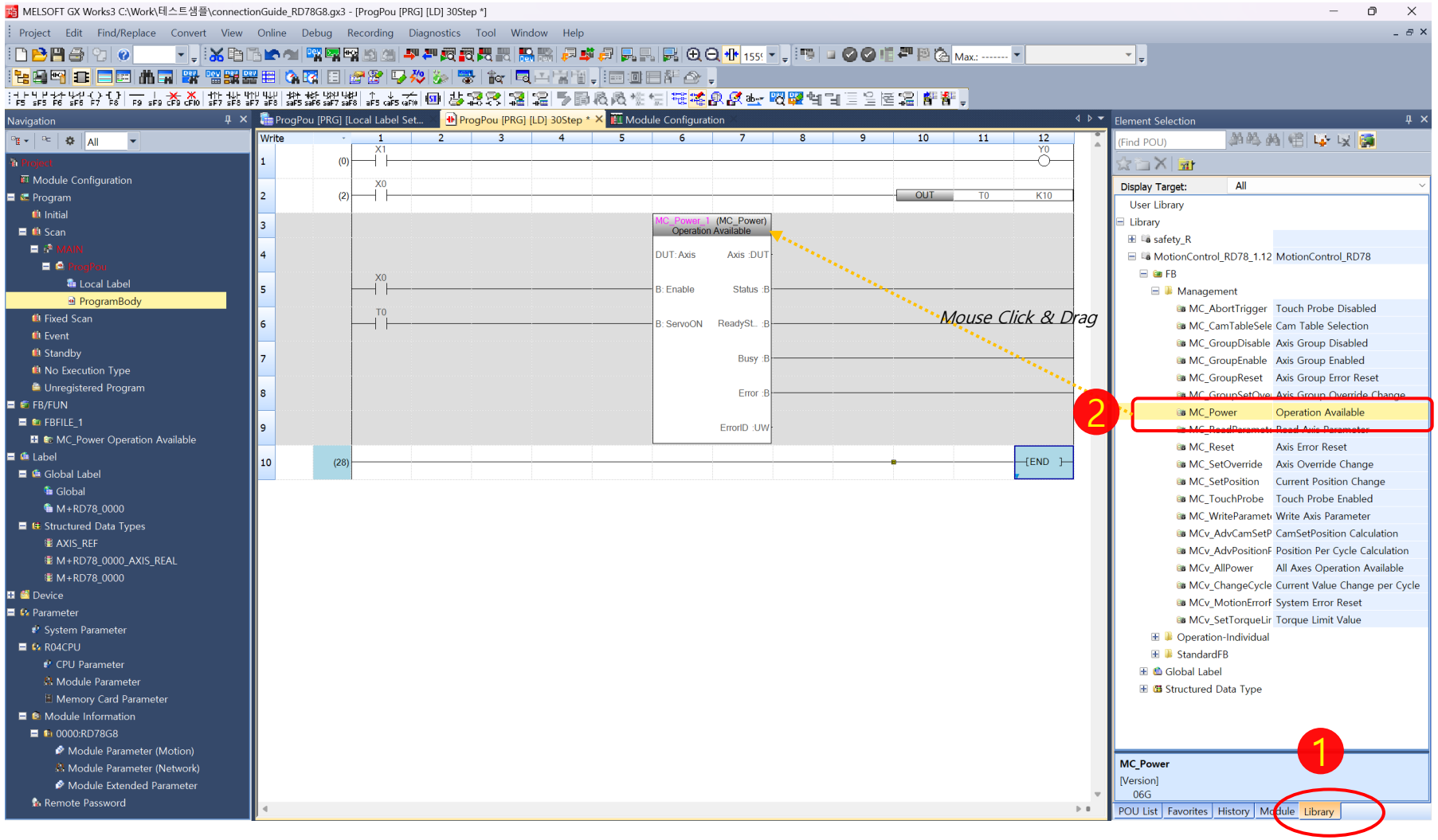
- **Online Data Operation**



3. Follow the Program

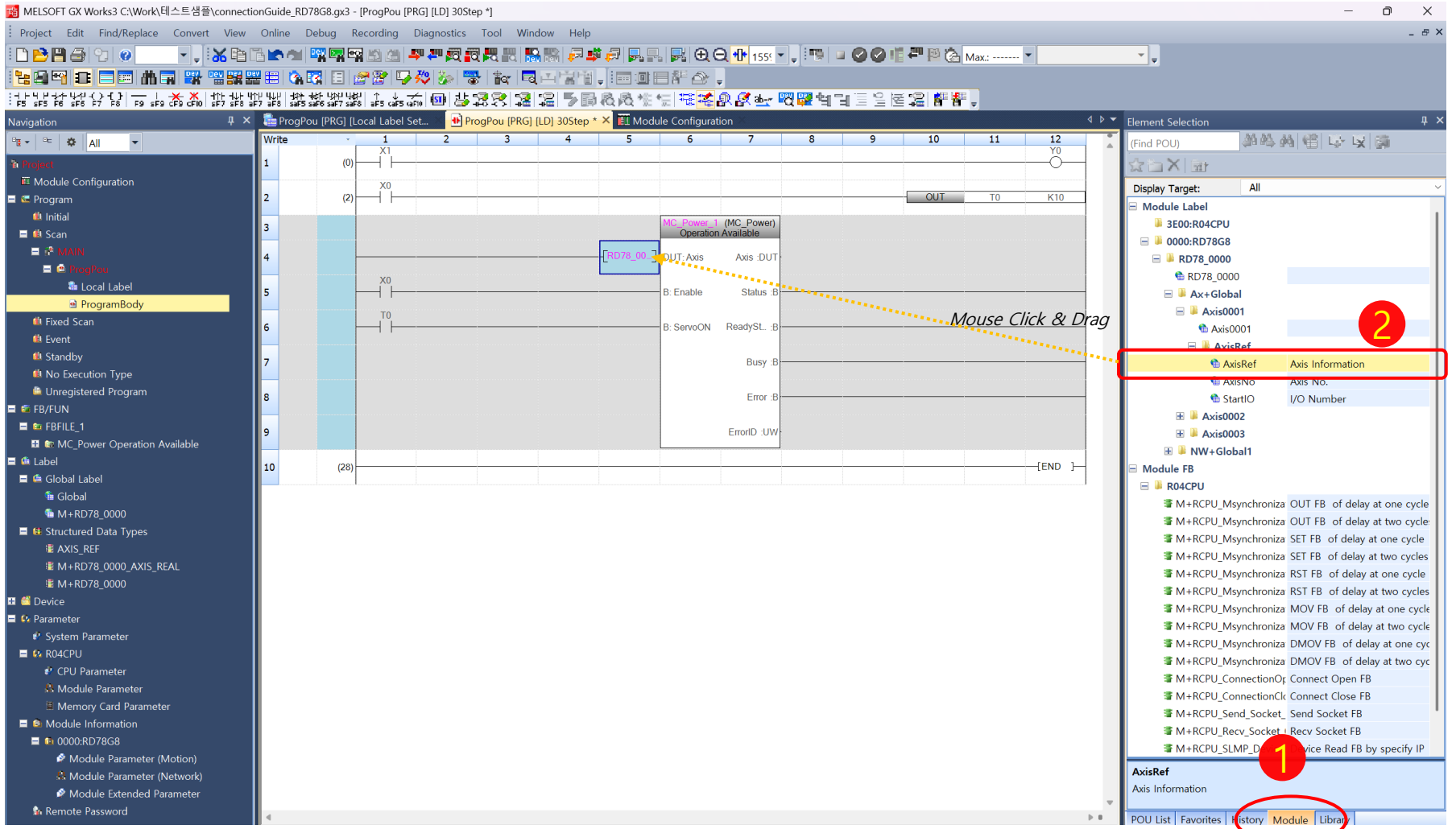
3-1. Exploring Motion Control Commands

- **Motion Control Function/Function Block Command – Element Selection - Library**



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

- **Ezi-STEP CC-Link IE TSN Enable/STEP ON Program**

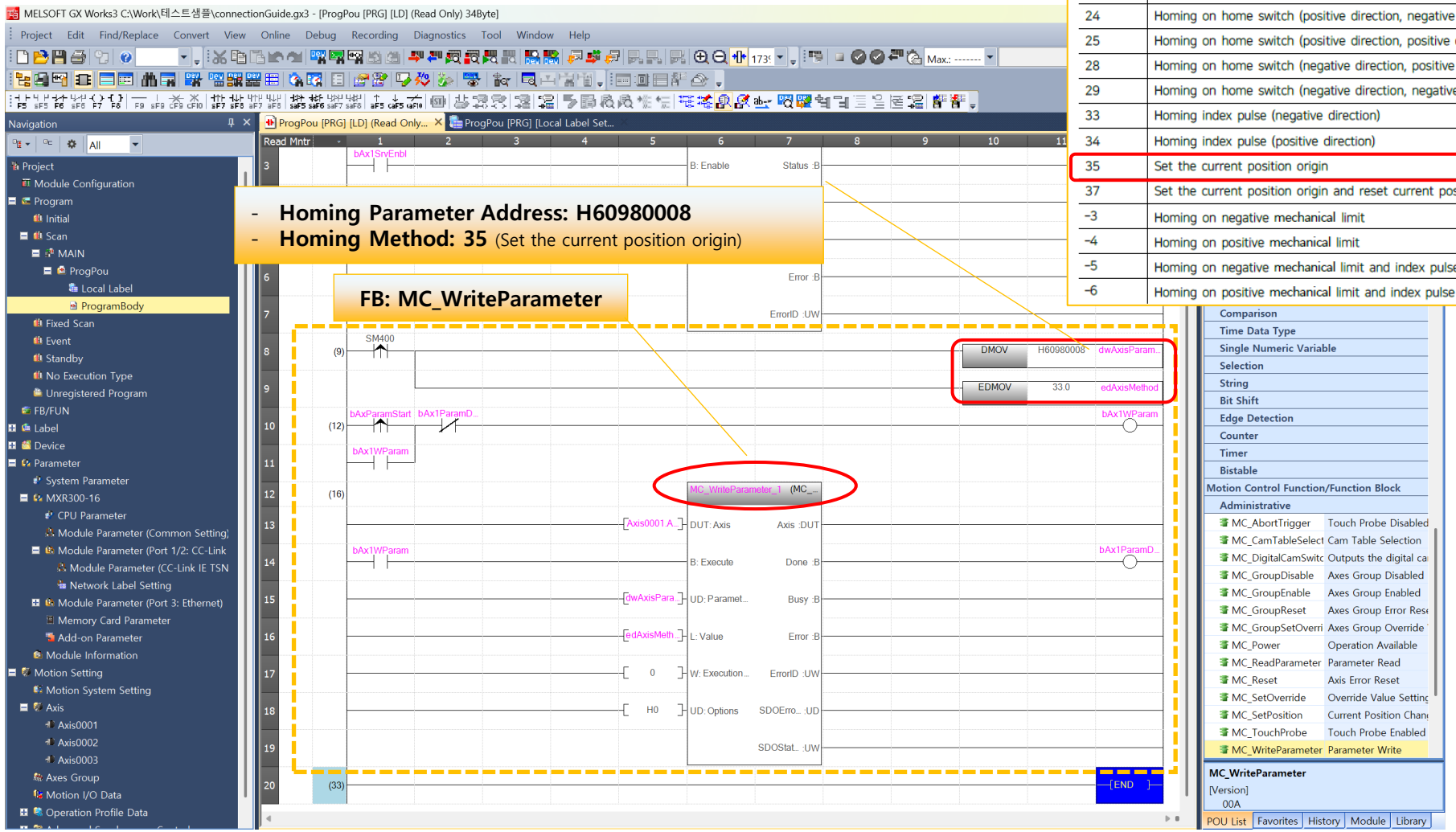


3-3. [Ladder] Specifying the homing method

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

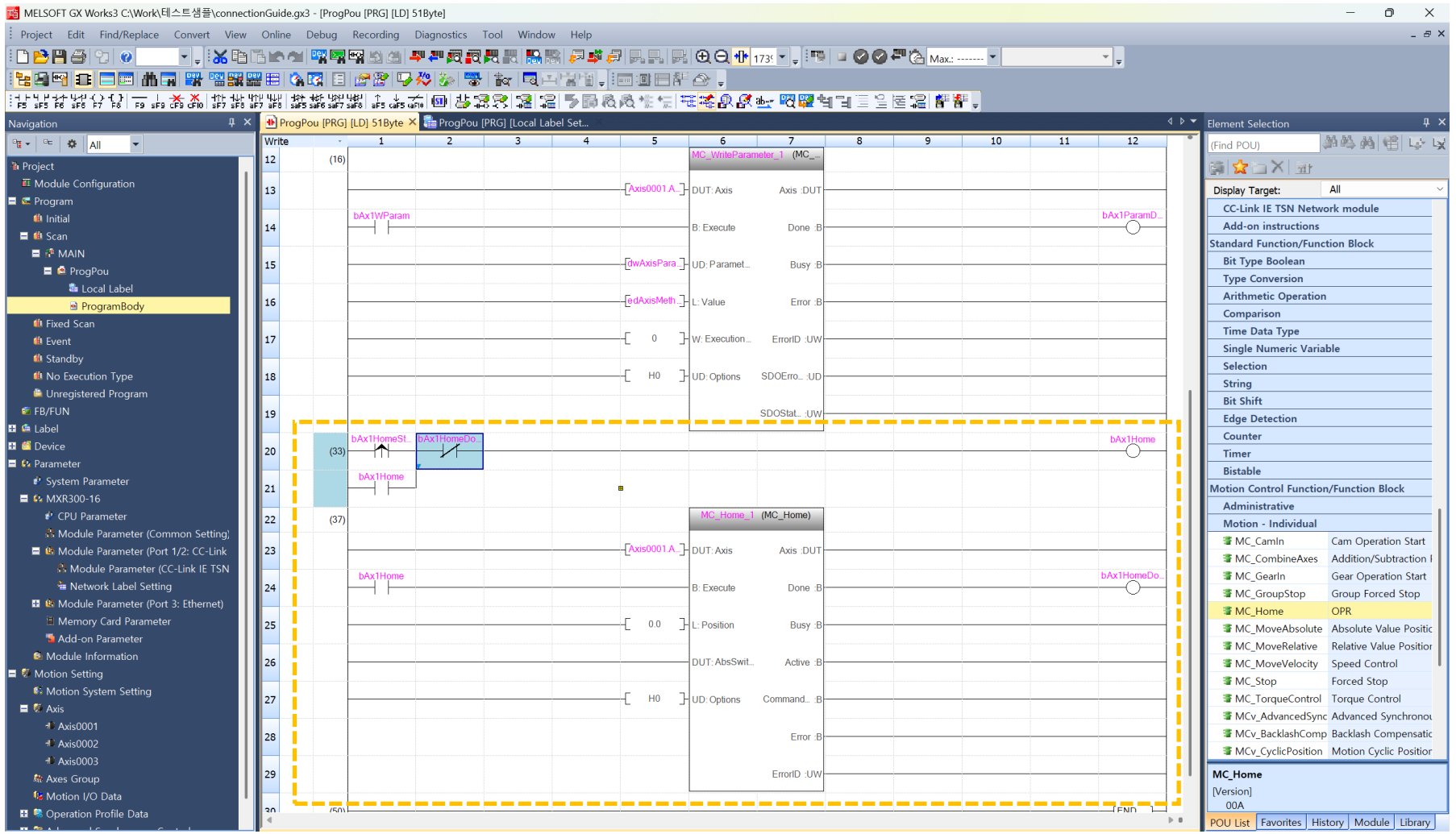
The homing method is classified as follows based on the setting value for Homing method (6098h):

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



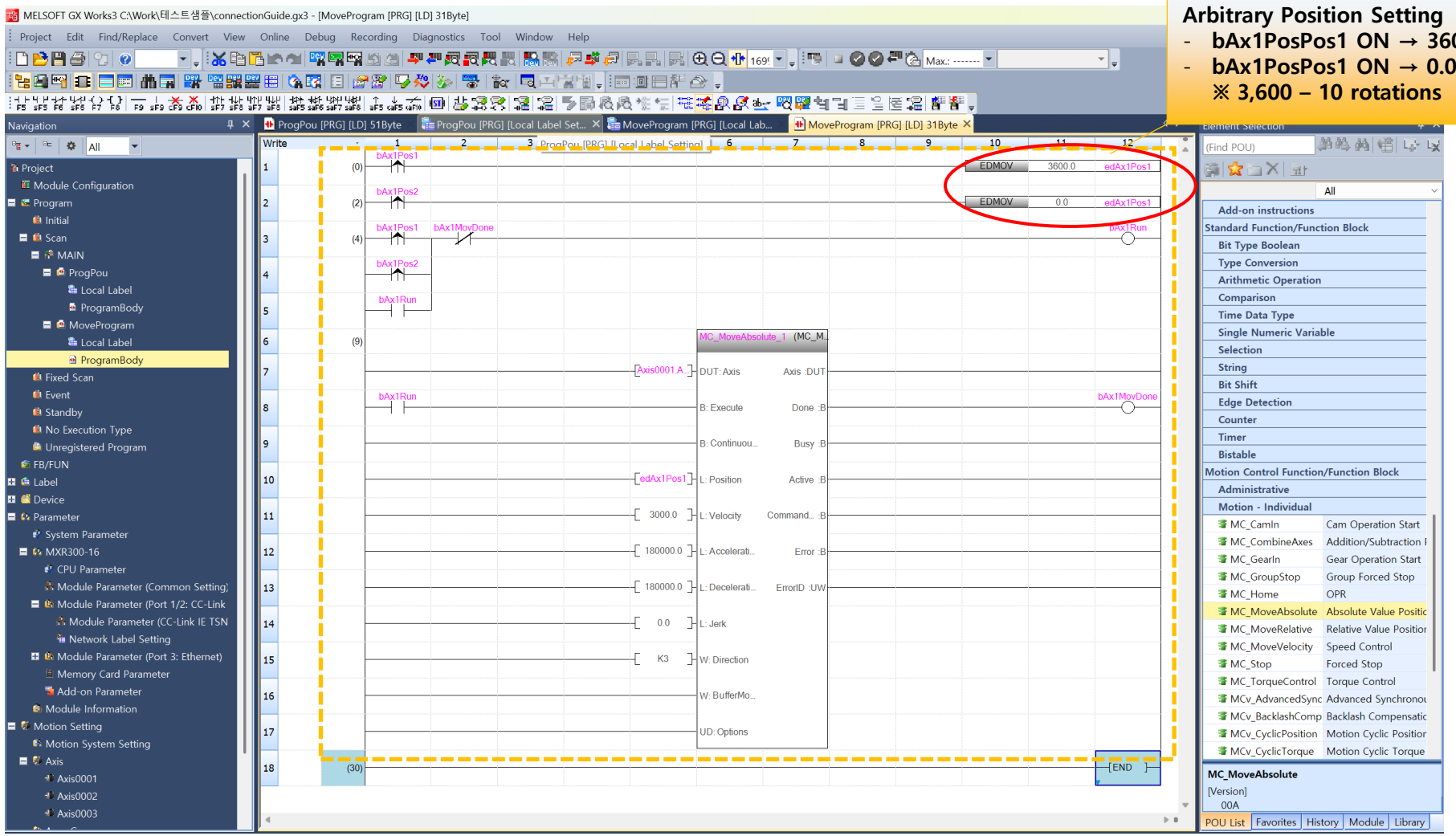
3-4. [Ladder] Execute Ezi-STEP homing

- Execute Homing (MC_Home)



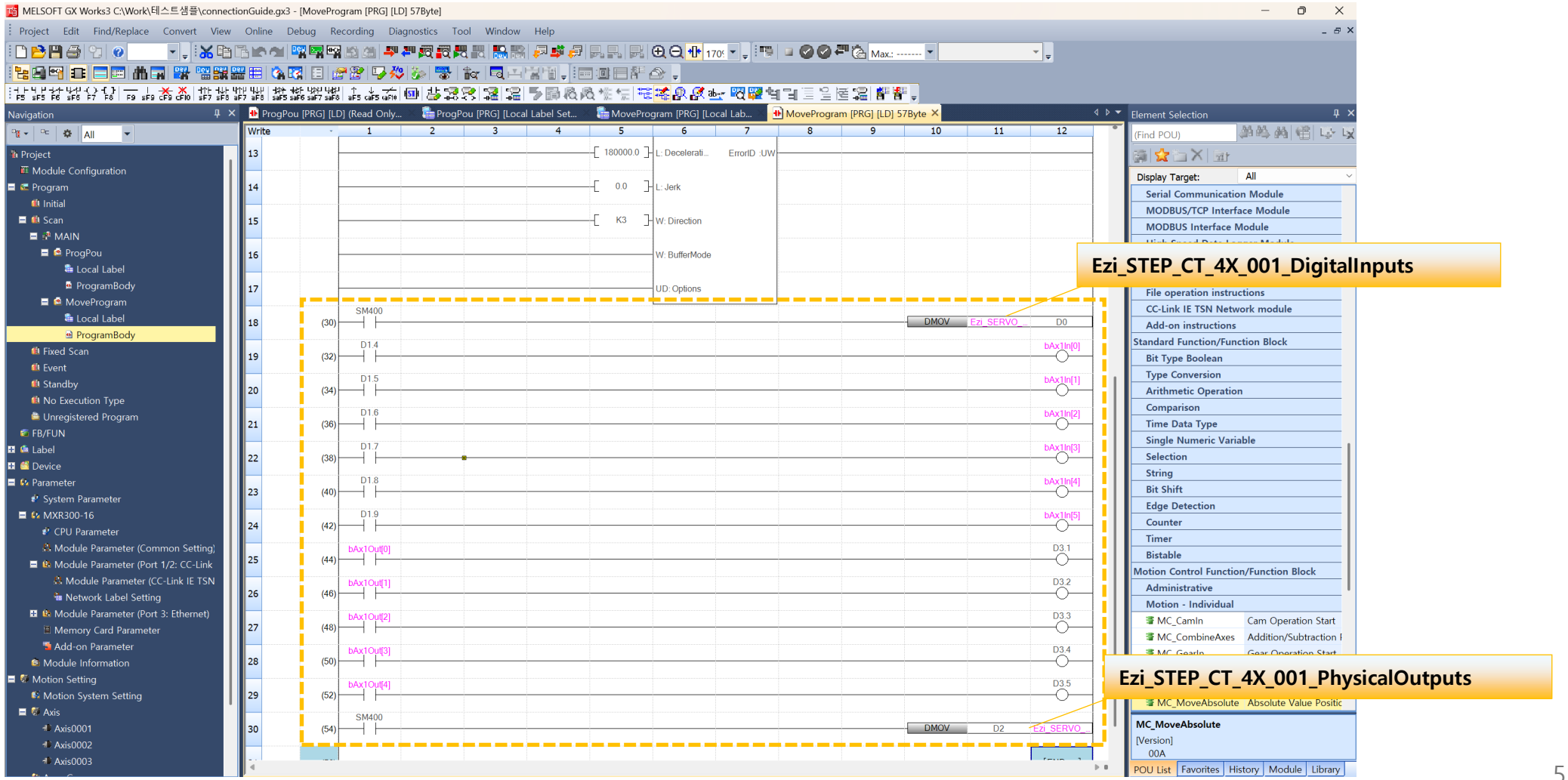
3-5. [Ladder] Execute Ezi-STEP Operation

- Execute Movement Action (MC_MoveAbsolute)



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

- Digital Input, Output Operation Execution



3-6. [Ladder] Execute Ezi-STEP DIO Operation: Map Reference

- Digital Inputs

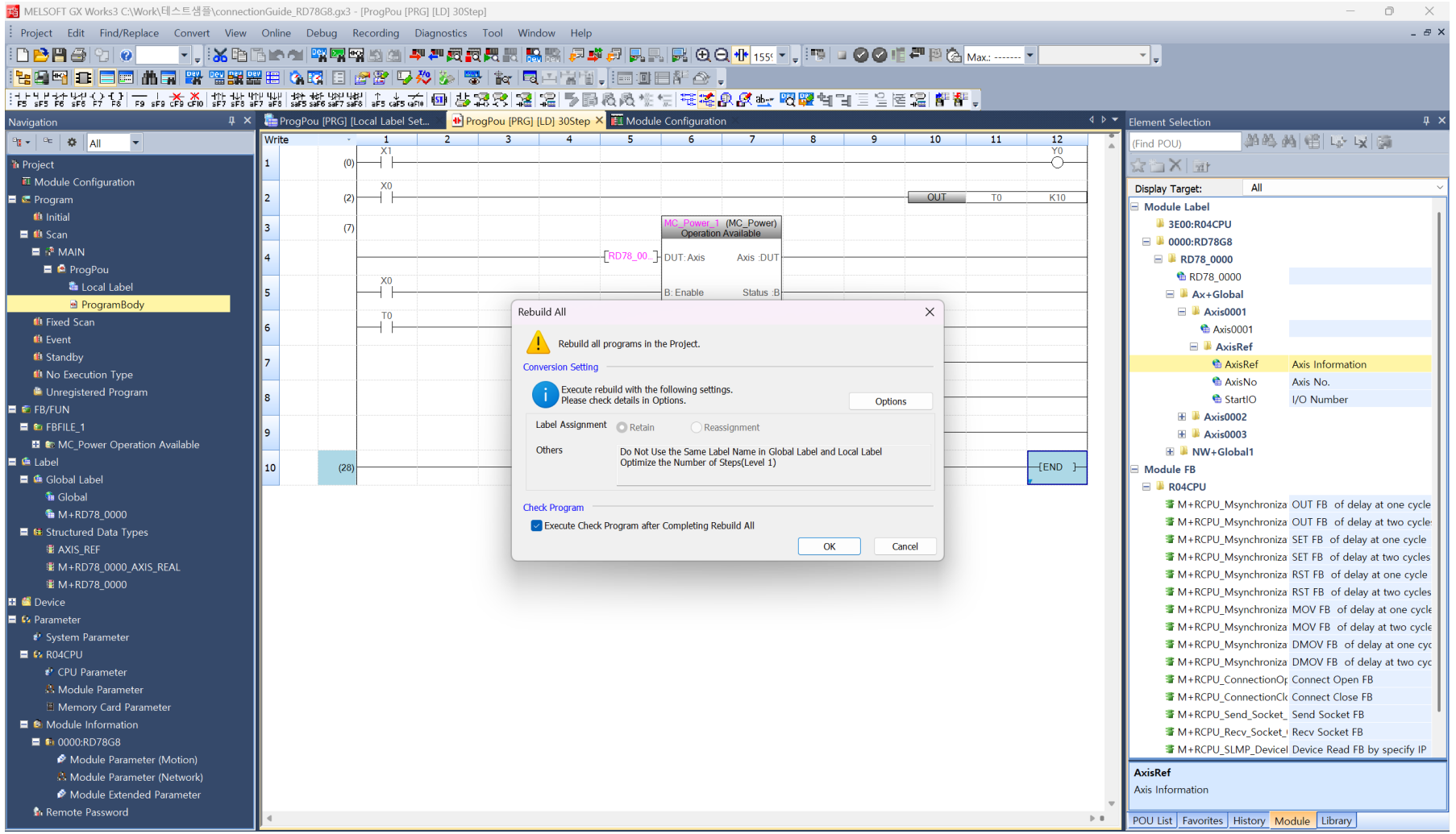
Bit 31	Bit 30	Bit 29	Bit 28	Bit 27	Bit 26	Bit 25	Bit 24
-	Motor Power	TQOFF2	TQOFF1	-	-	User input 6	User input 5
Bit 23	Bit 22	Bit 21	Bit 20	Bit 19	Bit 18	Bit 17	Bit 16
User input 4	User input 3	User input 2	User input 1	Reserved	Reserved	Reserved	
Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit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

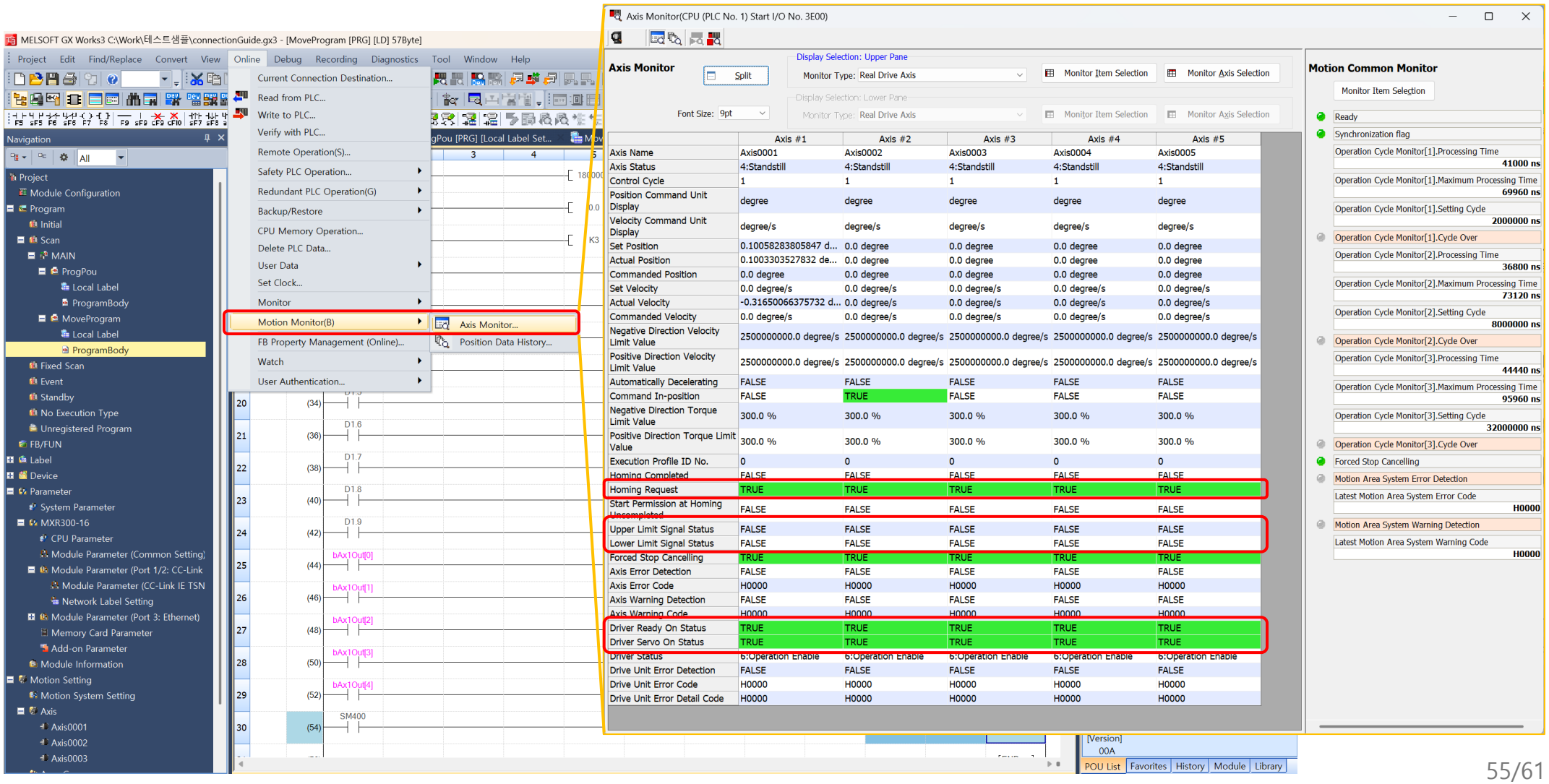
- Convert – Rebuild All



Appendix

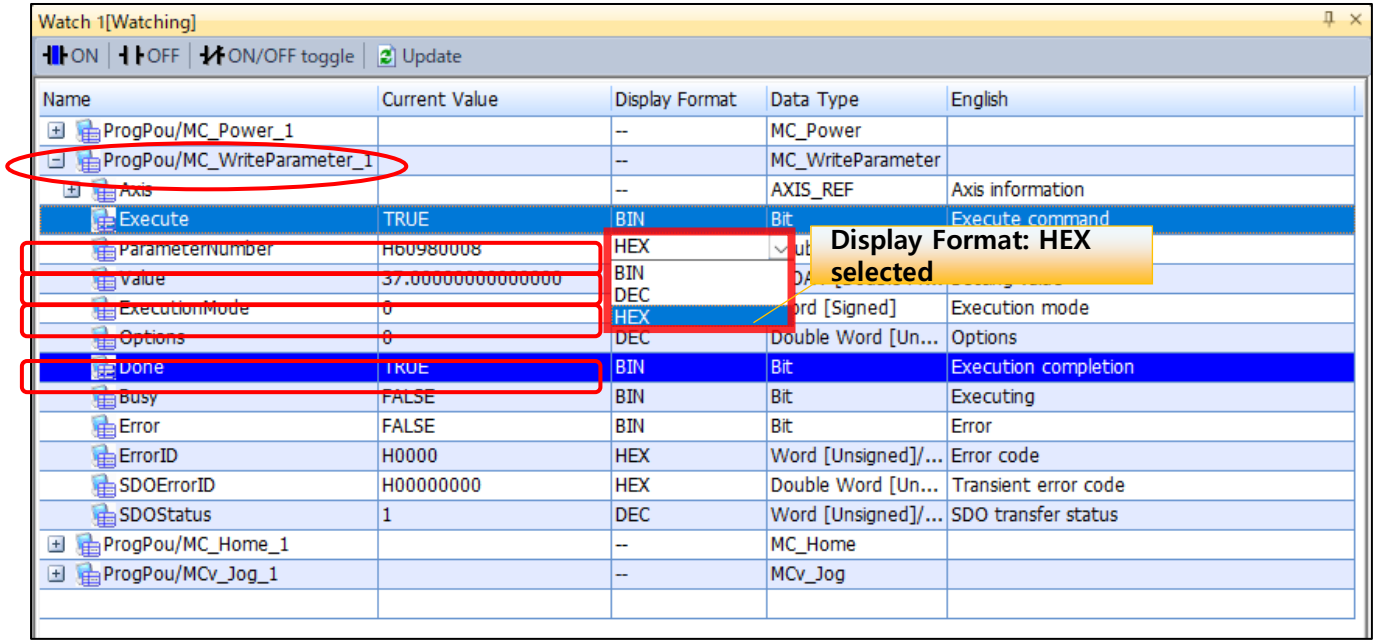
[Operation Verification] Axis Monitor

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



[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).

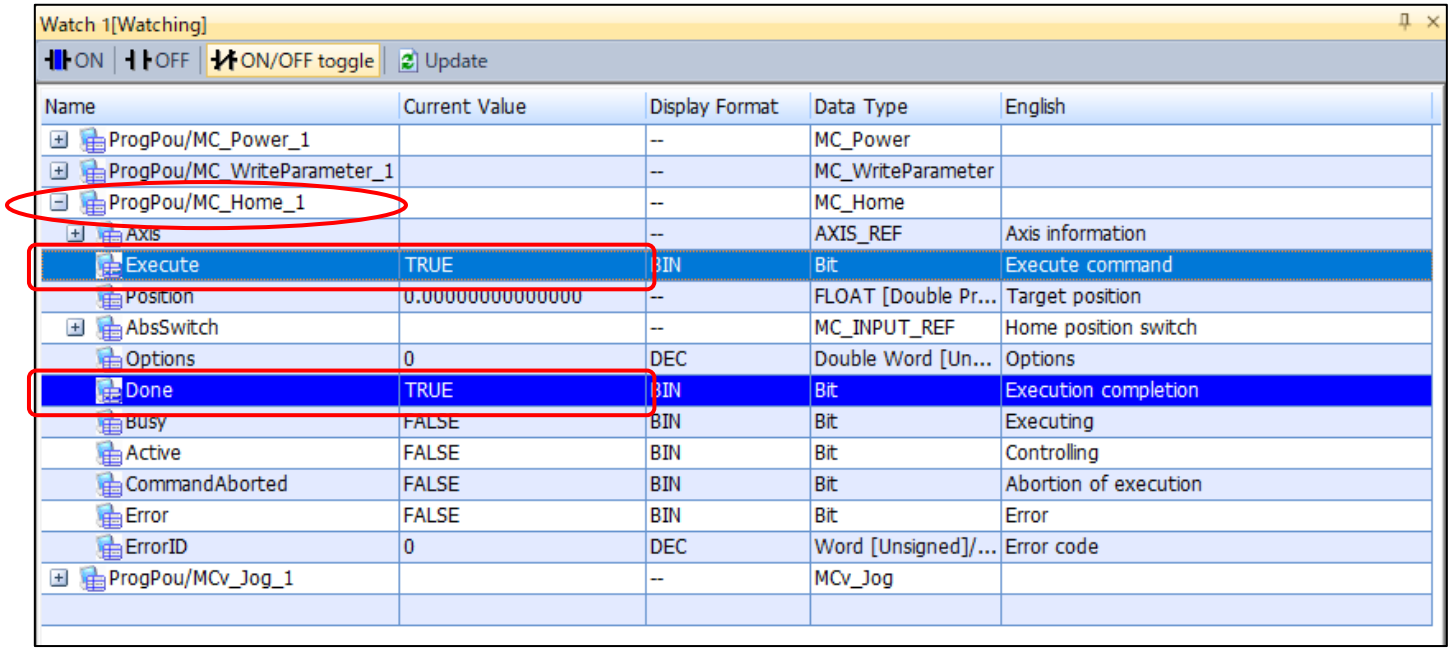
설정값	내용
1	Homing on negative limit switch and index pulse
2	Homing on positive limit switch and index pulse
7	Homing on home switch (positive direction, negative edge) and index pulse
10	Homing on home switch (positive direction, positive edge) and index pulse
11	Homing on home switch (negative direction, positive edge) and index pulse
14	Homing on home switch (negative direction, negative edge) and index pulse
17	Homing on negative limit switch
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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

[Operation Verification] Homing

- Execute homing using motion control FB

  ① Execute → TRUE (Write)

  ② Done → Becomes TRUE



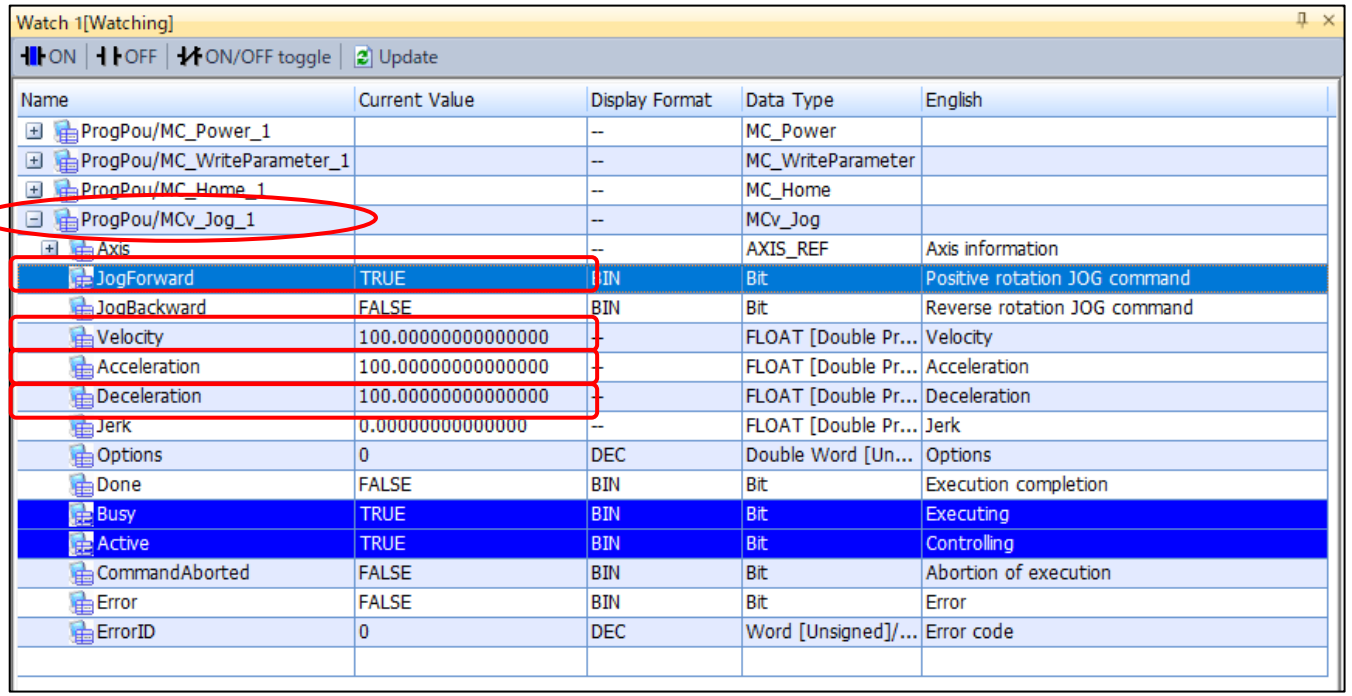
Name	Current Value	Display Format	Data Type	English
ProgPou/MC_Power_1		--	MC_Power	
ProgPou/MC_WriteParameter_1		--	MC_WriteParameter	
ProgPou/MC_Home_1		--	MC_Home	
Axis		--	AXIS_REF	Axis information
Execute	TRUE	BIN	Bit	Execute command
Position	0.0000000000000	--	FLOAT [Double Pr...	Target position
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 the Ezi-STEP CC-Link IE TSN 4X 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)

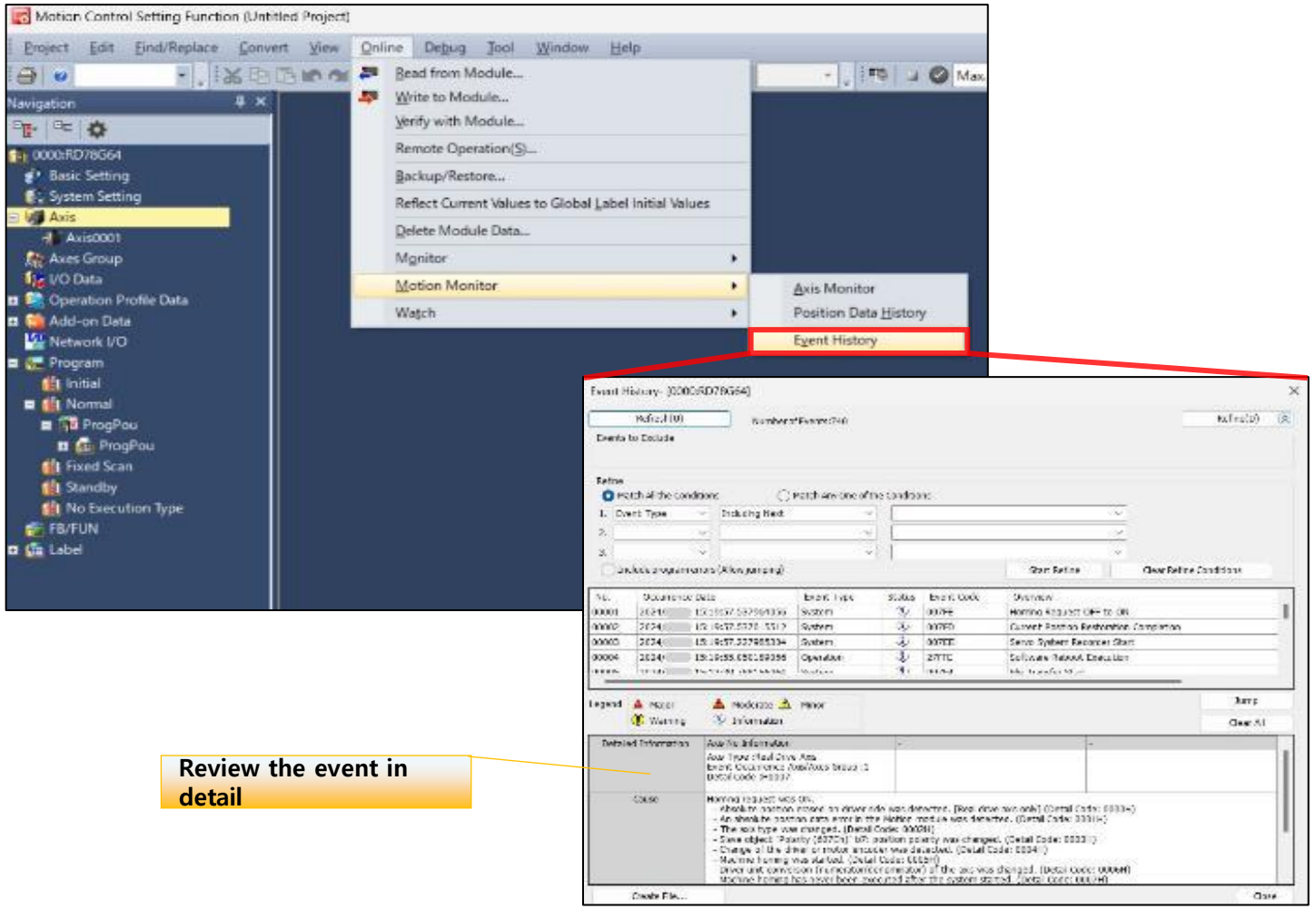


Name	Current Value	Display Format	Data Type	English
ProgPou/MC_Power_1		--	MC_Power	
ProgPou/MC_WriteParameter_1		--	MC_WriteParameter	
ProgPou/MC_Home_1		--	MC_Home	
ProgPou/MCv_Jog_1		--	MCv_Jog	
Axis		--	AXIS_REF	Axis information
JogForward	TRUE	BIN	Bit	Positive rotation JOG command
JogBackward	FALSE	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	0.00000000000000	--	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]



[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-STEP CC-Link IE TSN 4X 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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