

Servo System Controller

Motion Control Software SWM-G Basics

This course is intended for those who use Motion Control Software SWM-G for the first time. This course describes the installation of SWM-G, basic procedure and settings before operation, and basic programming using a sample project while constructing a motion control system. C++ is used as the programming language.

Click the Forward button at the upper right of the screen to proceed to the next page.

This basic course is intended for those who use Motion Control Software SWM-G for the first time.

This course requires the basic knowledge of Motion Control Software SWM-G.

For beginners, we recommend the following course.

- "Motion Control Software SWM-G for Beginners" course

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In some cases, trademark symbols such as '™' or '®' are not specified in this course.

The contents of this course are as follows.
We recommend that you start from Chapter 1.

Chapter 1 Installation of Motion Control Software SWM-G

This chapter describes the required procedure and settings for installing Motion Control Software SWM-G.

Chapter 2 Basic Operation of the Engineering Tool (SWMOS)

This chapter describes the basic settings of the engineering tool (SWMOS) included in Motion Control Software SWM-G.





Chapter 3 Operation Check Using a Sample Project

This chapter describes the programming procedures and basic programs using sample projects.

Final Test

5 sections in total (9 questions) Passing grade: 60% or higher

Introduction How to Use This e-Learning Tool

Go to the next page		Go to the next page.
Back to the previous page		Back to the previous page.
Move to the desired page		"Table of Contents" will be displayed, enabling you to navigate to the desired page.
Exit the learning		Exit the learning. Window such as "Contents" screen and the learning will be closed.

■ **Safety precautions**


When you learn based on using actual products, please carefully read the safety precautions in the corresponding manuals and handle the product properly while taking all precautions for safety.

■ **Precautions in this course**

The screen images shown in the course may differ from the actual screens depending on your software version. This course is for the following software versions.

For the latest version of each software, check the MITSUBISHI ELECTRIC FA Global Website.

Motion Control Software SWM-G	Ver. 1.006G
MELSOFT MR Configurator2	Ver. 1.145B

 indicates the reference manual.

This chapter describes the procedure and settings required for installing Motion Control Software SWM-G to a personal computer.

- 1.1 Installation Procedure and Point
- 1.2 Preparation for Installation
- 1.3 Installation
- 1.4 Summary of This Chapter

■ Reference manual

For how to install Motion Control Software SWM-G, refer to the following manual.



Motion Control Software SWM-G User's Manual (Installation)

■ Supplementary document

For the arranged items required for taking this course, IPC and components (CPU, NIC) compatible with SWM-G, and motion control performance (number of control axes), refer to the separate PDF.

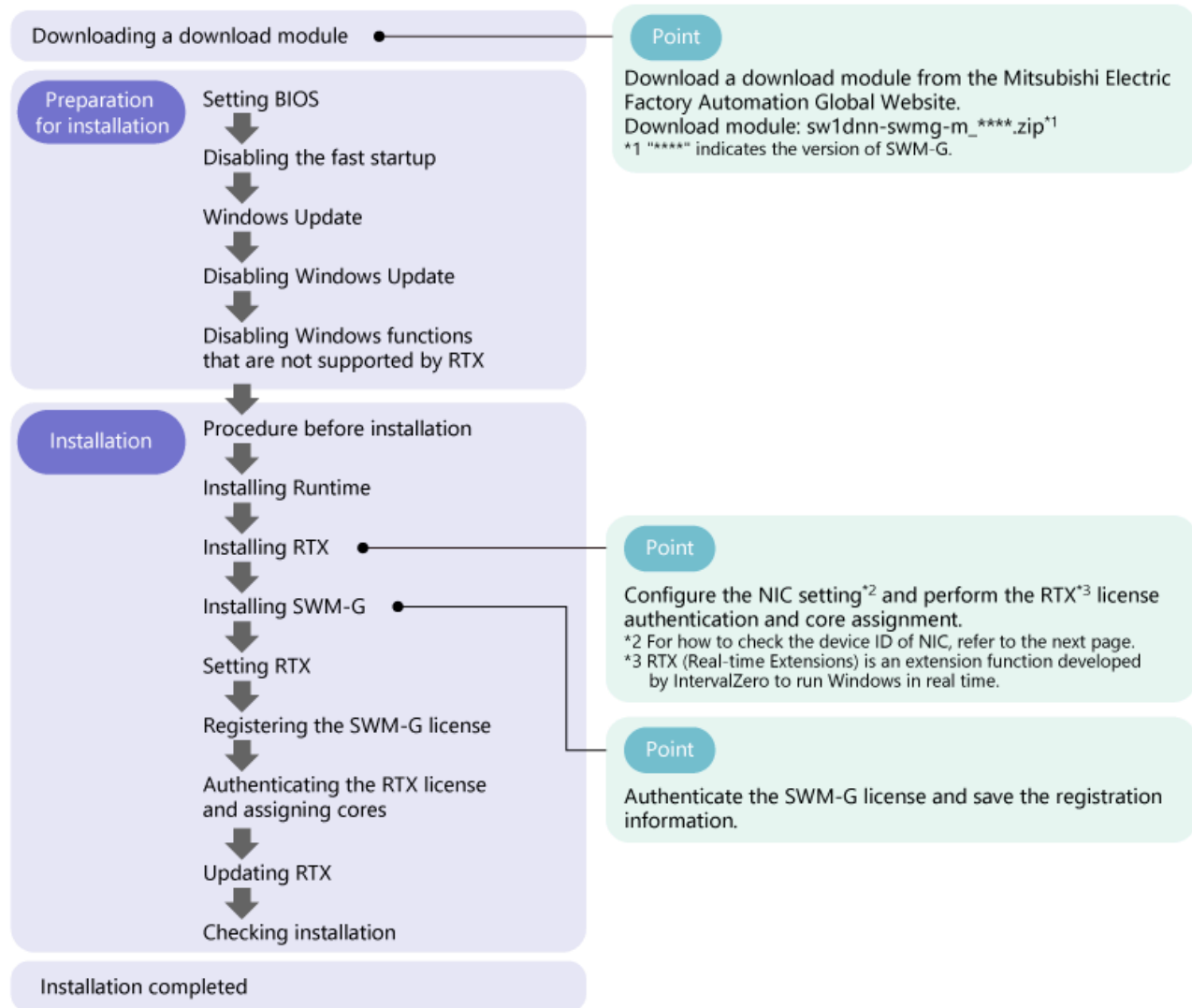
It can be downloaded from the following link.

Required items and compatible equipment

Install Motion Control Software SWM-G by the following procedure.

Download the download module at Mitsubishi Electric Factory Automation Global Website in advance.

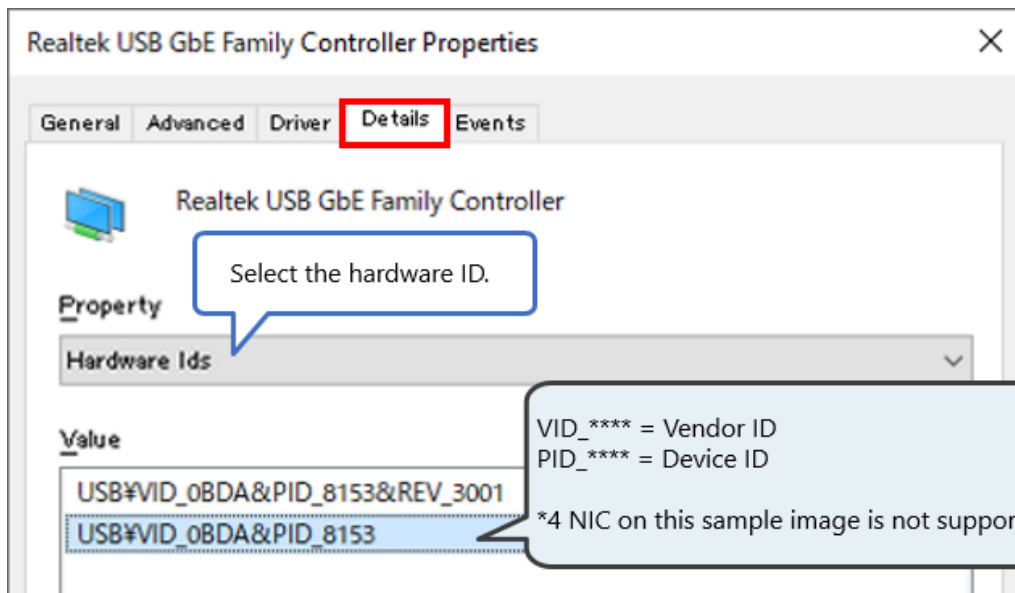
Preparation for Installation and "Installation" are described in the following sections.



- How to check the device ID of NIC

Whether NIC of the personal computer to be used is supported or not can be checked by the following procedure.

1. Right-click the Windows logo (start menu) in the task bar, and select [Device Manager] from the displayed menu.
2. Right-click the device in question under [Network adapter], and select [Properties] from the context menu.
3. In the property window for the device, select "Hardware Ids" from the property pull-down menu in the "Details" tab and check the ID.



This chapter describes the preparation for installing Motion Control Software SWM-G. Configure the following settings according to the operating environment of the personal computer used. The details are described in the following sections.

- BIOS setting
- Disabling the fast startup
- Windows Update(Windows 10)
- Disabling Windows Update
- Disabling Windows functions that are not supported by RTX

If the BIOS in the personal computer to be used supports the following settings, disable these functions. In the BIOS setting, the setting items differ depending on the personal computer to be used. For details, refer to the operating manual of the personal computer.

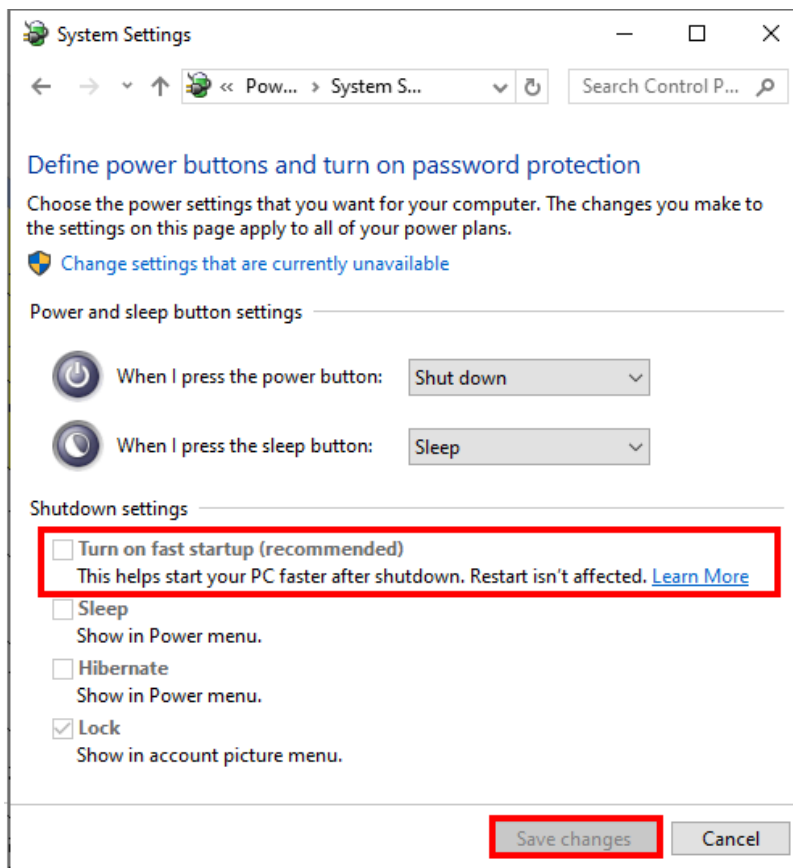
- Disable the following functions before installing SWM-G.

Function name
Hyper-Threading
Intel Virtualization
x2APIC

Disable the fast startup by following the procedure below.

■ Disabling C++ and fast startup

1. Log on to the personal computer as the administrative account.
2. Select [Windows System] → [Control Panel] from the Windows start menu.
 - The [Control Panel] window appears.
3. Click [System and Security].
 - The [System and Security] window appears.
4. Click [Change what the power buttons do] in [Power Options].
 - The [System Settings] window appears.
5. Remove the check from "Turn on fast startup" in [Shutdown settings] and click [Save changes].
6. Restart the personal computer.



[System Settings] window

Apply Windows 10 update program that supports RTX to the personal computer to be used.
Windows 10 update program that supports RTX can be checked at the IntervalZero website below.

[IntervalZero website]

www.intervalzero.com/windows-10-updates-support/

[Point]

- Do not apply Windows 10 update program that does not support RTX.
- If an error occurs in RTX after updating Windows 10, uninstall RTX and then reinstall it.

1.2.4 Disabling Windows Update

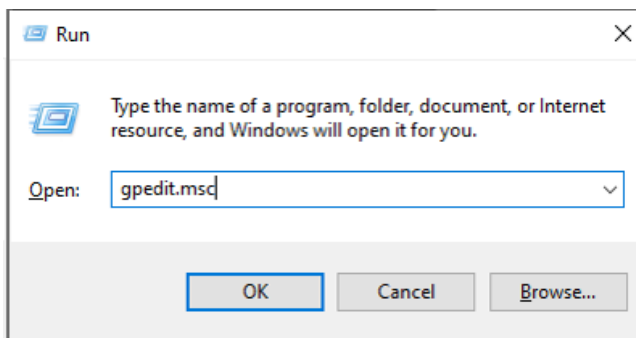
Applying the Windows 10 update program that does not support RTX can cause a malfunction of RTX. Therefore, it is recommended that the automatic update of Windows Update is disabled and Windows Update is set to update manually.

In addition to setting Windows Update to update manually, you can also prevent Windows Update from being performed by not connecting to the network.

This section describes the procedure for setting Windows Update to update manually.

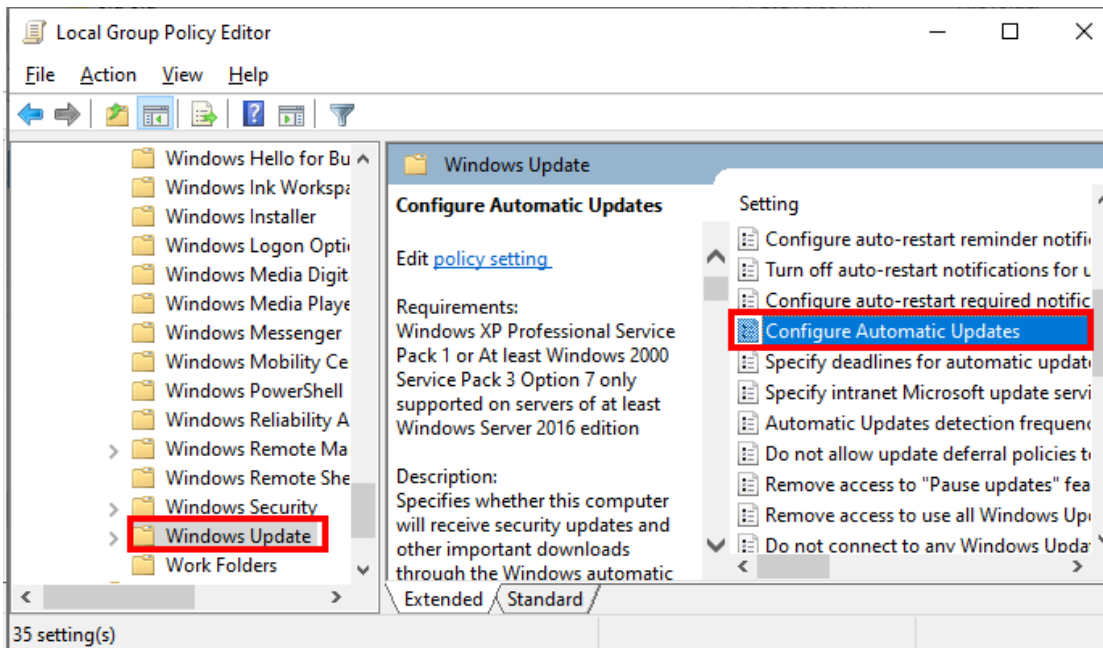
■ Set Windows Update to update manually.

1. Log on to the personal computer as the administrative account.
2. Right-click the Windows logo (start menu) in the task bar and click "Run".
 - The [Run] window appears.
3. Enter "gpedit.msc" and click the [OK] button.
 - Local Group Policy Editor starts.



[Run] window

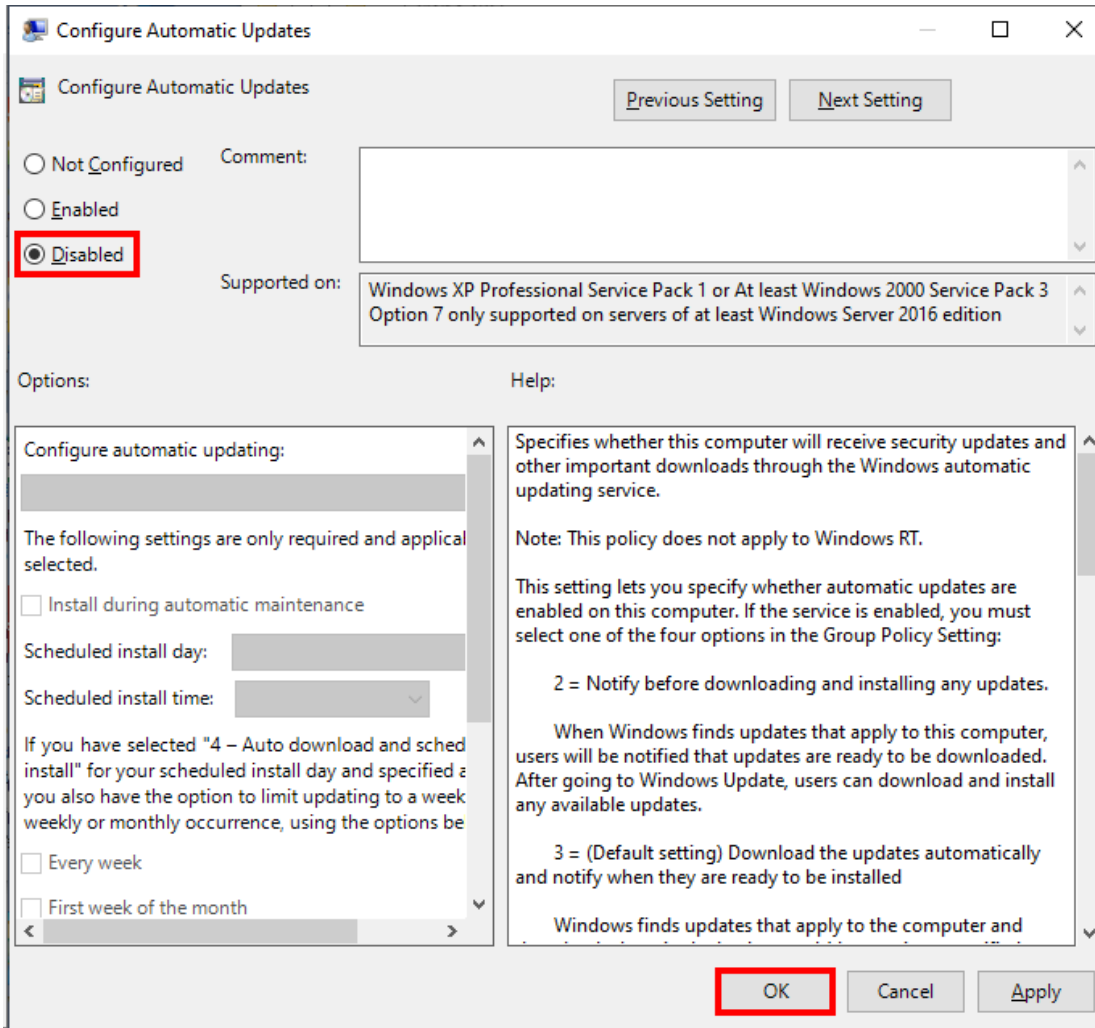
4. Select [Computer Configuration] → [Administrative Templates] → [Windows Components] → [Windows Update], and then open "Configure Automatic Updates".
 - The [Configure Automatic Updates] window appears.



[Local Group Policy Editor] window

5. Select "Disabled" and click the [OK] button.

6. Restart the personal computer.



[Configure Automatic Updates] window

The following two Windows functions are not supported by RTX.

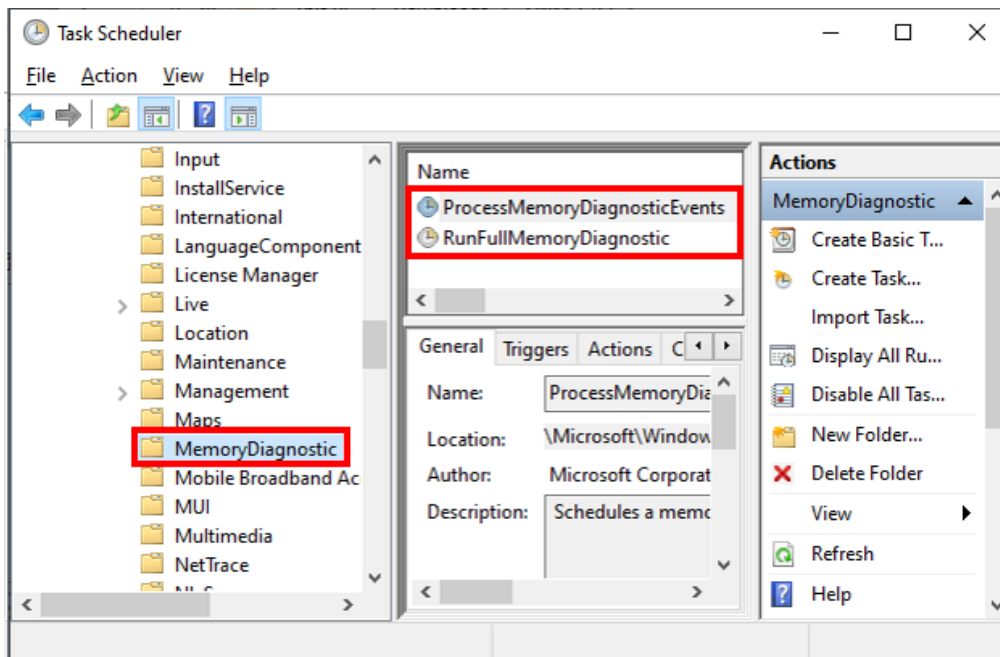
When these functions are enabled, a blue screen error may occur and the personal computer may restart.

Therefore, disable these functions by following the steps a and b below.

Function name	Phenomenon (When the function is enabled)
Windows memory diagnosis	Long-term operation of RTX generates a blue screen error due to memory access violation.
Hyper-V	Starting RTX generates a blue screen error.

a. Disable the Windows memory diagnosis.

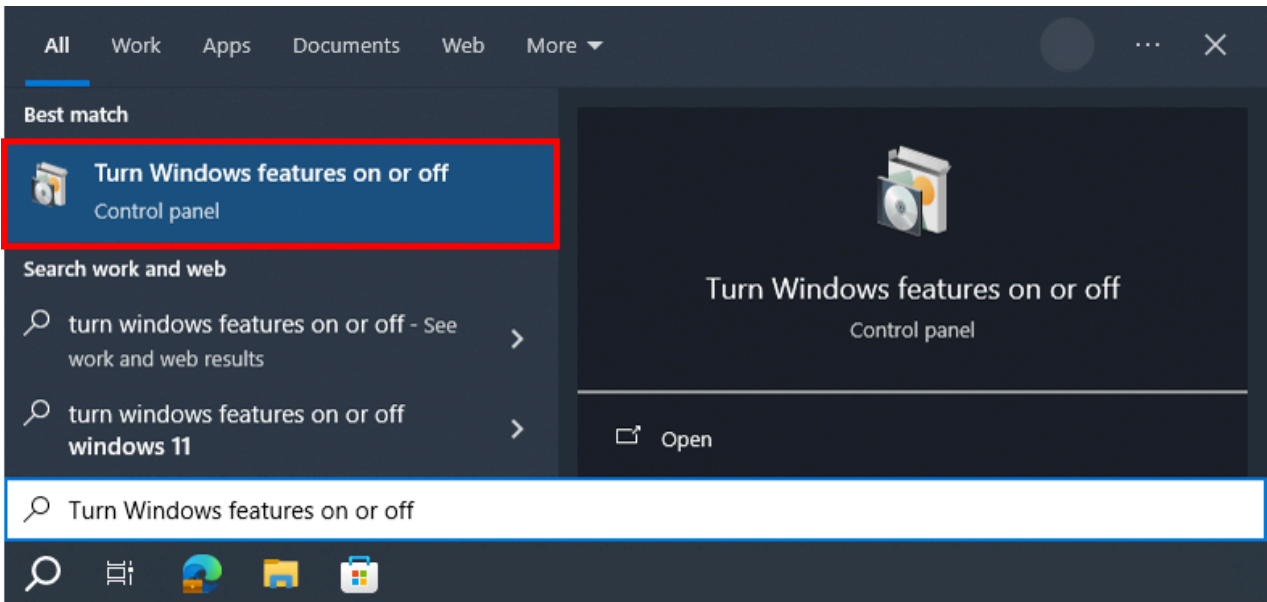
1. Log on to the personal computer as the administrative account.
2. Type "Task Scheduler" in the search box on the task bar and execute the application.
 - Task Scheduler starts.
3. In the left frame, select [Task Scheduler Library] → [Microsoft] → [Windows] → [MemoryDiagnostic].
4. In the center frame, right-click [RunFullMemoryDiagnostic] and select "Disabled".
5. In the same way, right-click [ProcessMemoryDiagnosticEvents] and select "Disabled".
6. Restart the personal computer.



[Task Scheduler] window

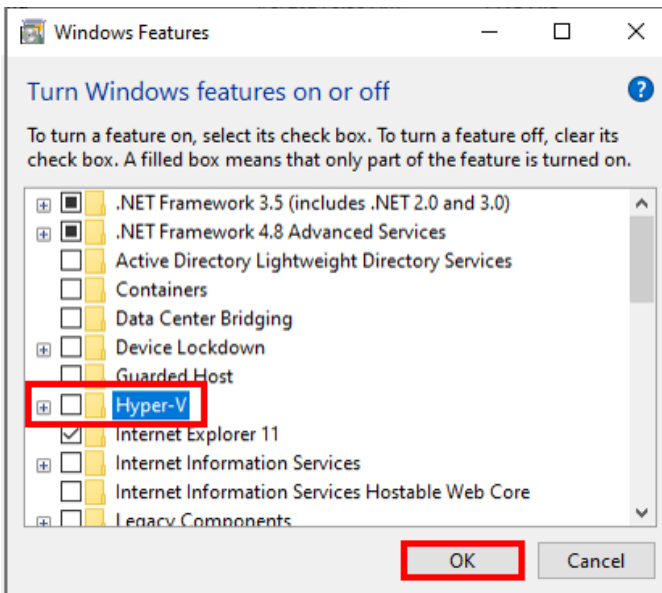
b. Disable Hyper-V.

1. Log on to the personal computer as the administrative account.
2. Type "Turn Windows features on or off" in the search box on the task bar and select it.
 - The [Windows features] window appears.



Search box

3. Remove the check from "Hyper-V" and click the [OK] button.
4. Restart the personal computer.



[Windows Features] window

This section describes the installation of Motion Control Software SWM-G. The details are described in the following sections.

- Procedure before installation
- Installing Runtime
- Installing RTX
- Installing SWM-G
- Setting RTX
- Registering the SWM-G license
- Authenticating the RTX license and assigning cores
- Updating RTX
- Checking installation

Log on to the personal computer as the administrative account. Close all the applications before installing Motion Control Software SWM-G.

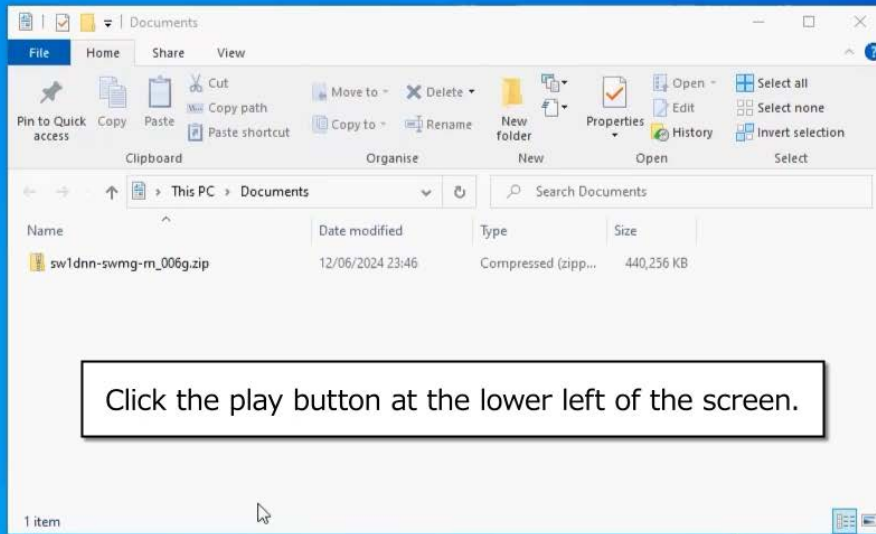
- If Motion Control Software SWM-G is installed while any other applications are running, the product may not operate properly.

1.3.2

Installing Runtime

Unzip the download module.

Next, execute SWM-G Installer.exe and install a Runtime. For the procedure, see the video below.



Unzip the download module (sw1dnn-swmg-m_****.zip*).

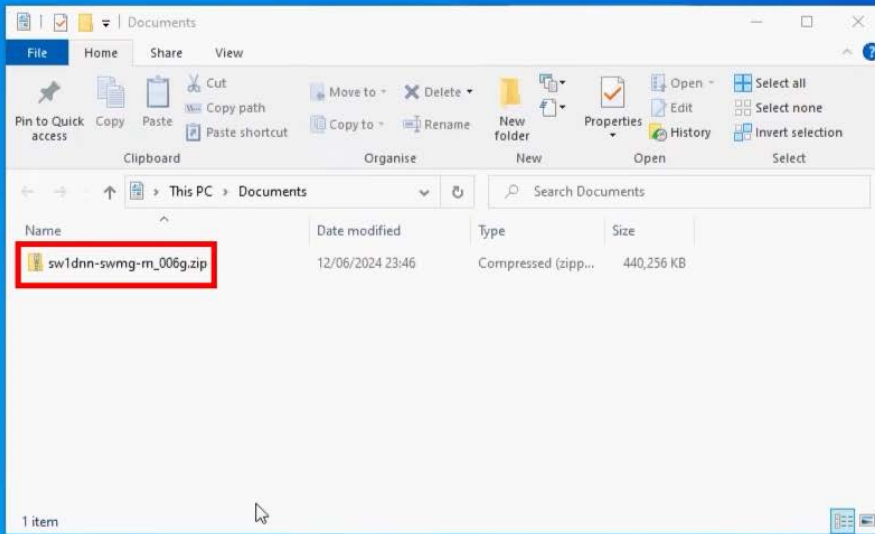
* ****: Version of SWM-G

1.3.2

Installing Runtime

Unzip the download module.

Next, execute SWM-G Installer.exe and install a Runtime. For the procedure, see the video below.



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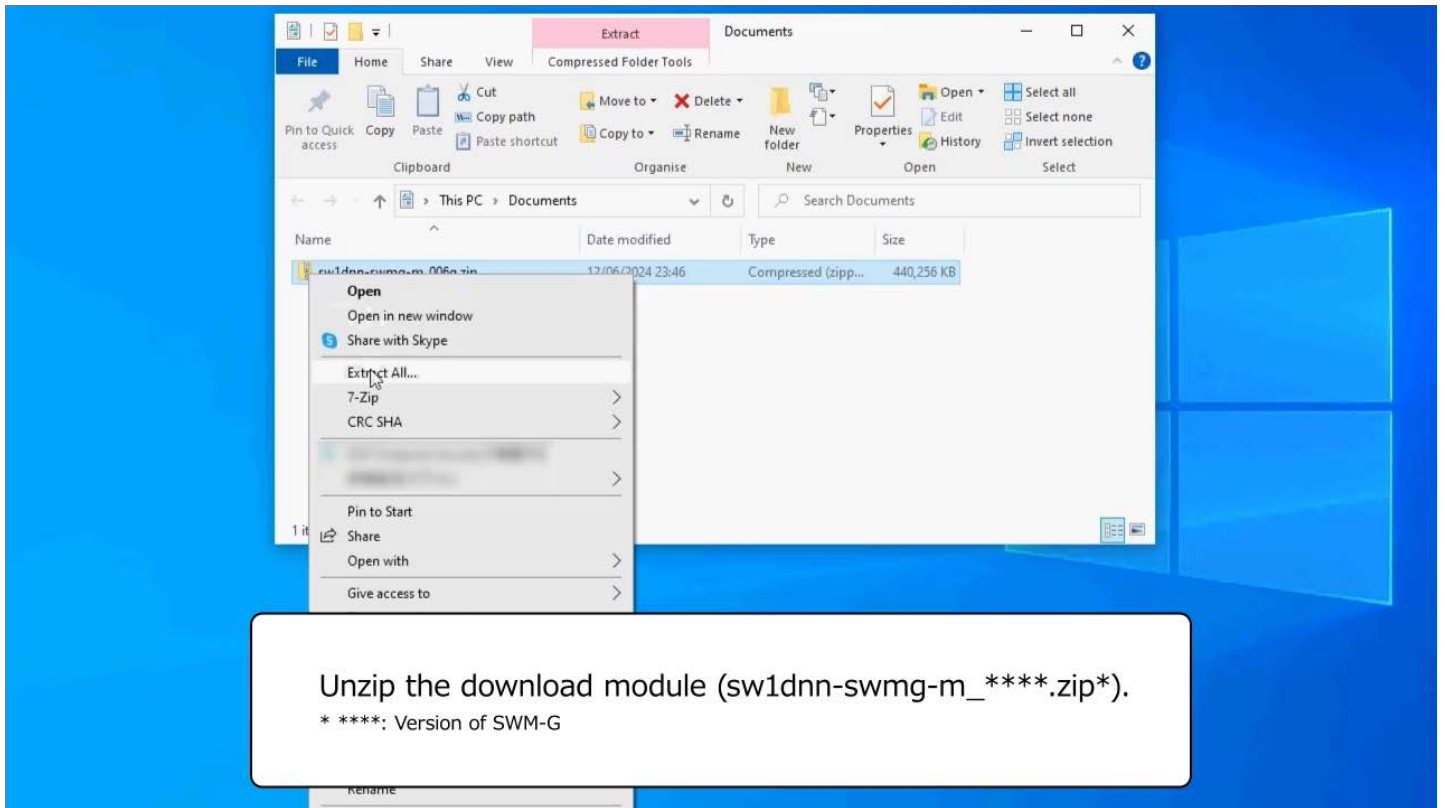
* ****: Version of SWM-G

1.3.2

Installing Runtime

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Next, execute SWM-G Installer.exe and install a Runtime. For the procedure, see the video below.

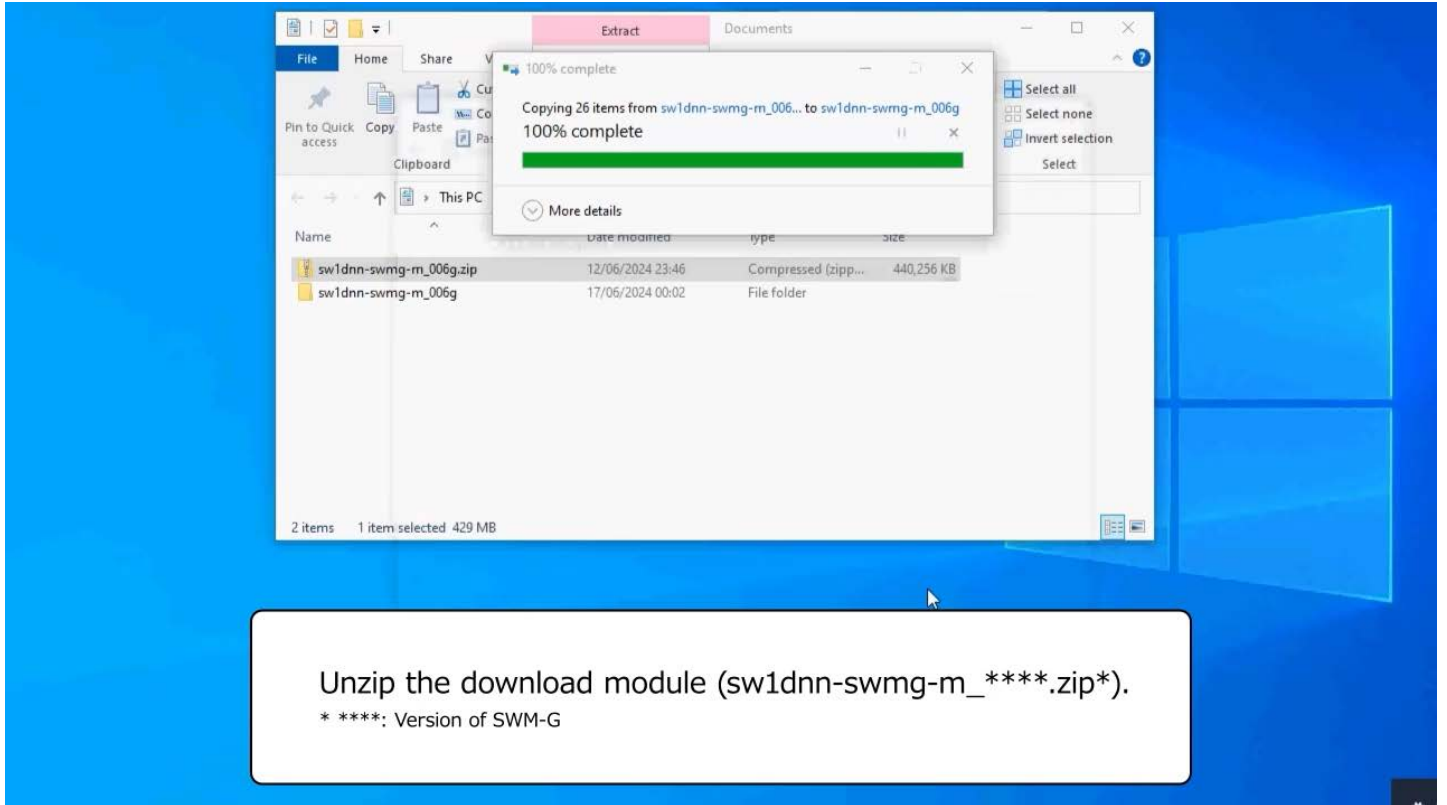


1.3.2

Installing Runtime

Unzip the download module.

Next, execute SWM-G Installer.exe and install a Runtime. For the procedure, see the video below.

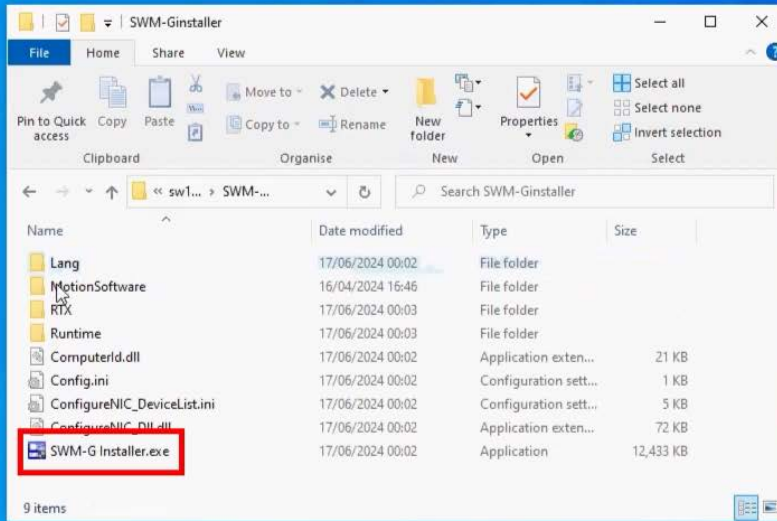


1.3.2

Installing Runtime

Unzip the download module.

Next, execute SWM-G Installer.exe and install a Runtime. For the procedure, see the video below.



Select the "sw1dnn-swmg-m_*****" folder →
"SWM-G-installer" folder in the unzipped download module
and execute "SWM-G Installer.exe".

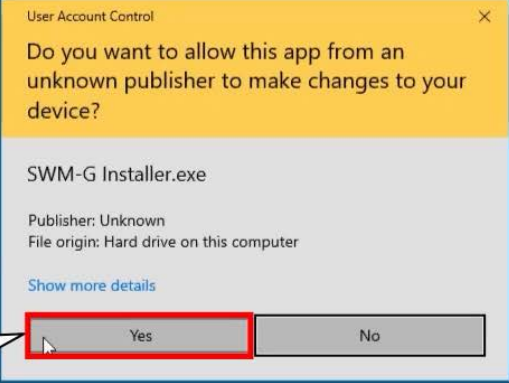
* ****: Version of SWM-G

1.3.2

Installing Runtime

Unzip the download module.

Next, execute SWM-G Installer.exe and install a Runtime. For the procedure, see the video below.



Click the
[Yes] button.

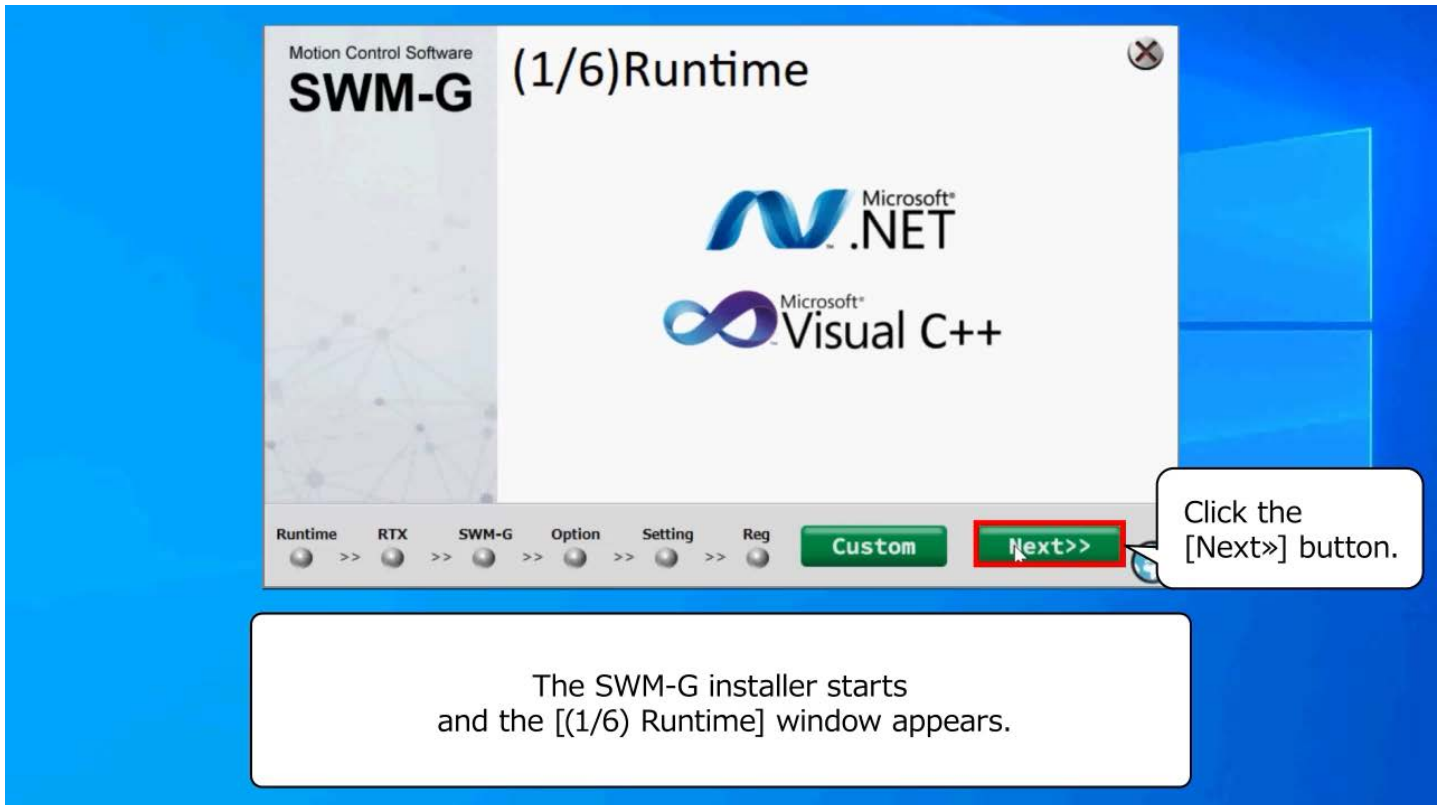
The confirmation window shown above appears.
Click "Yes" to allow the application to make changes
to the device.

1.3.2

Installing Runtime

Unzip the download module.

Next, execute SWM-G Installer.exe and install a Runtime. For the procedure, see the video below.

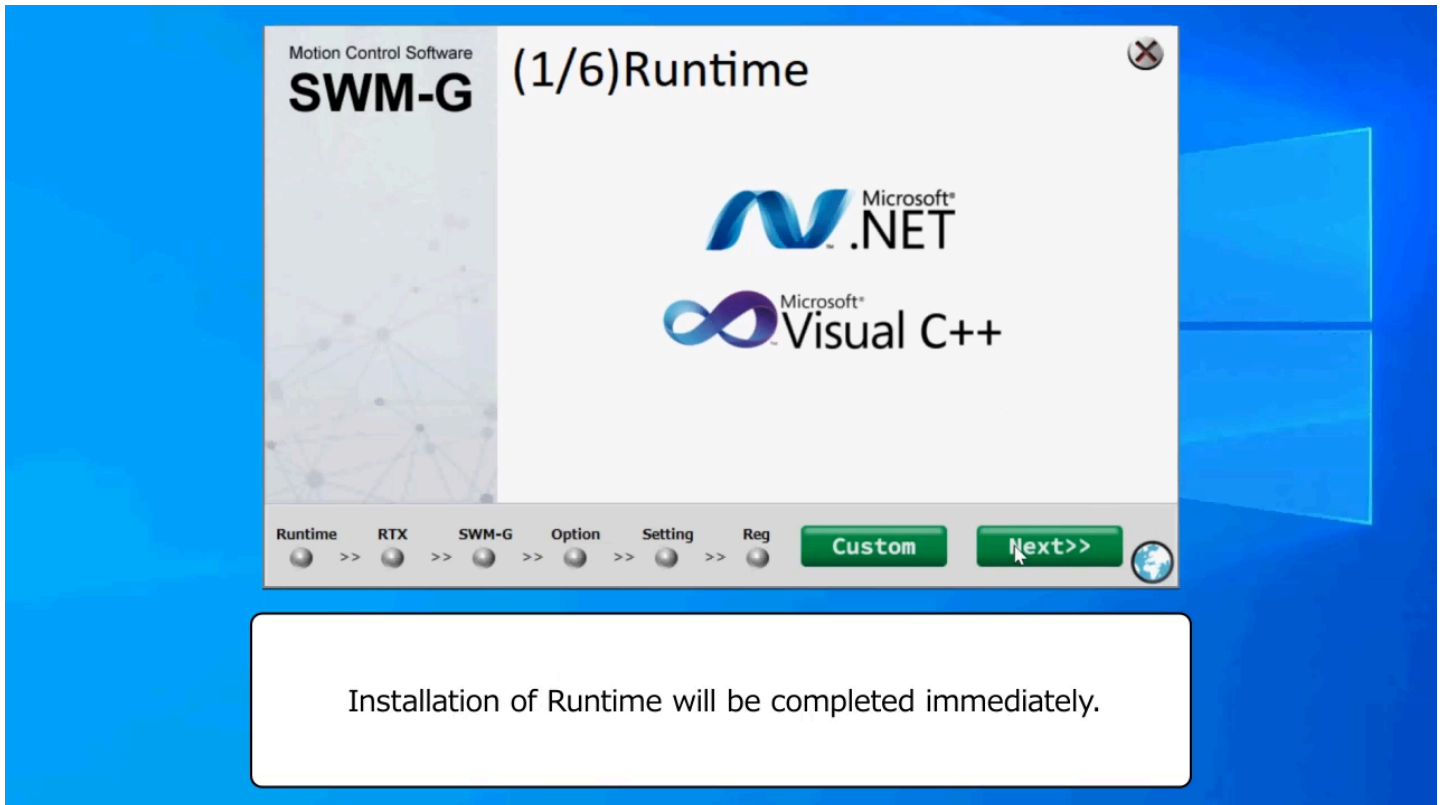


1.3.2

Installing Runtime

Unzip the download module.

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Installing Runtime

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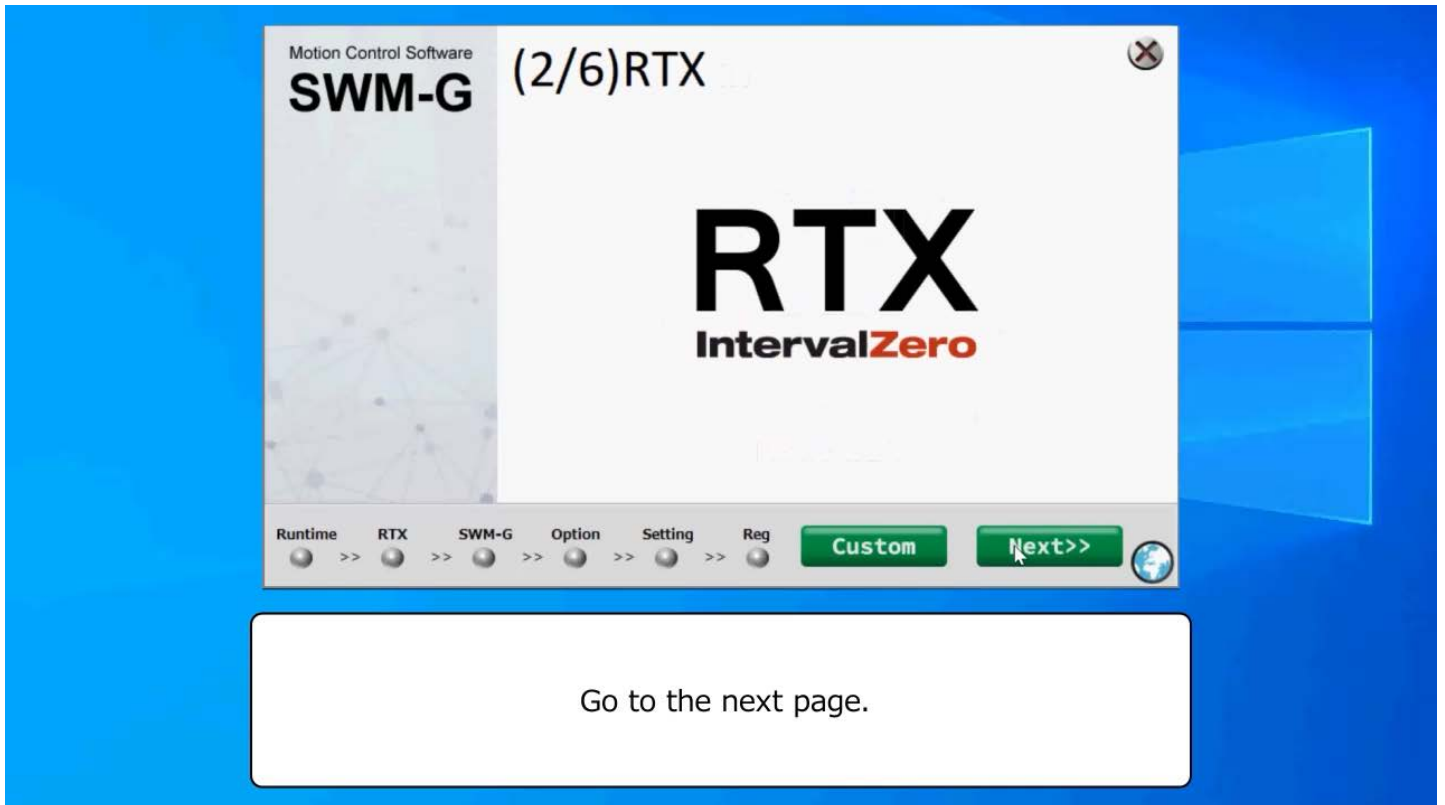
The installer switches to the [(2/6) RTX] window.

1.3.2

Installing Runtime

Unzip the download module.

Next, execute SWM-G Installer.exe and install a Runtime. For the procedure, see the video below.

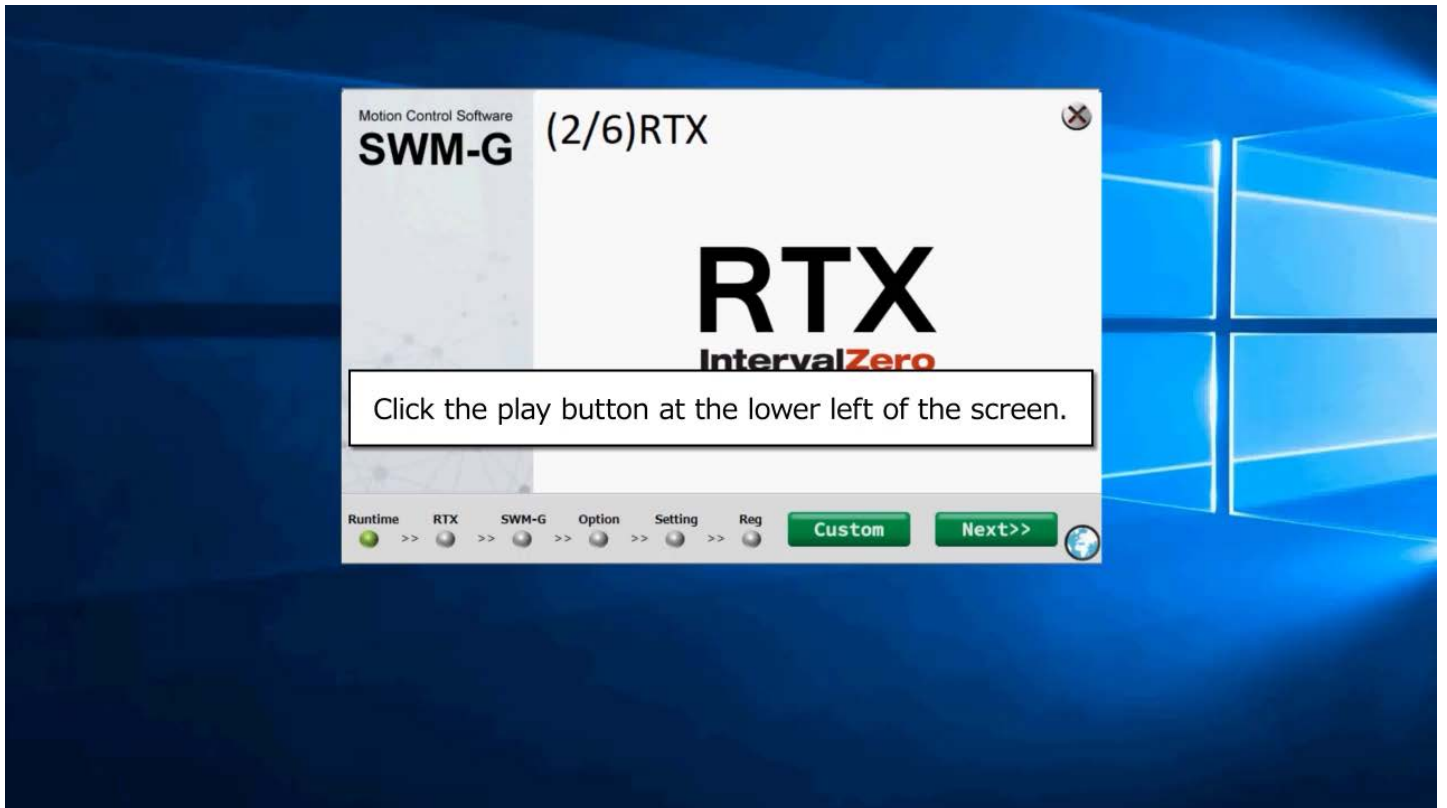


1.3.3

Installing RTX

Next, install RTX.

Check that the [(2/6)RTX] window is displayed. For the procedure, see the video below.

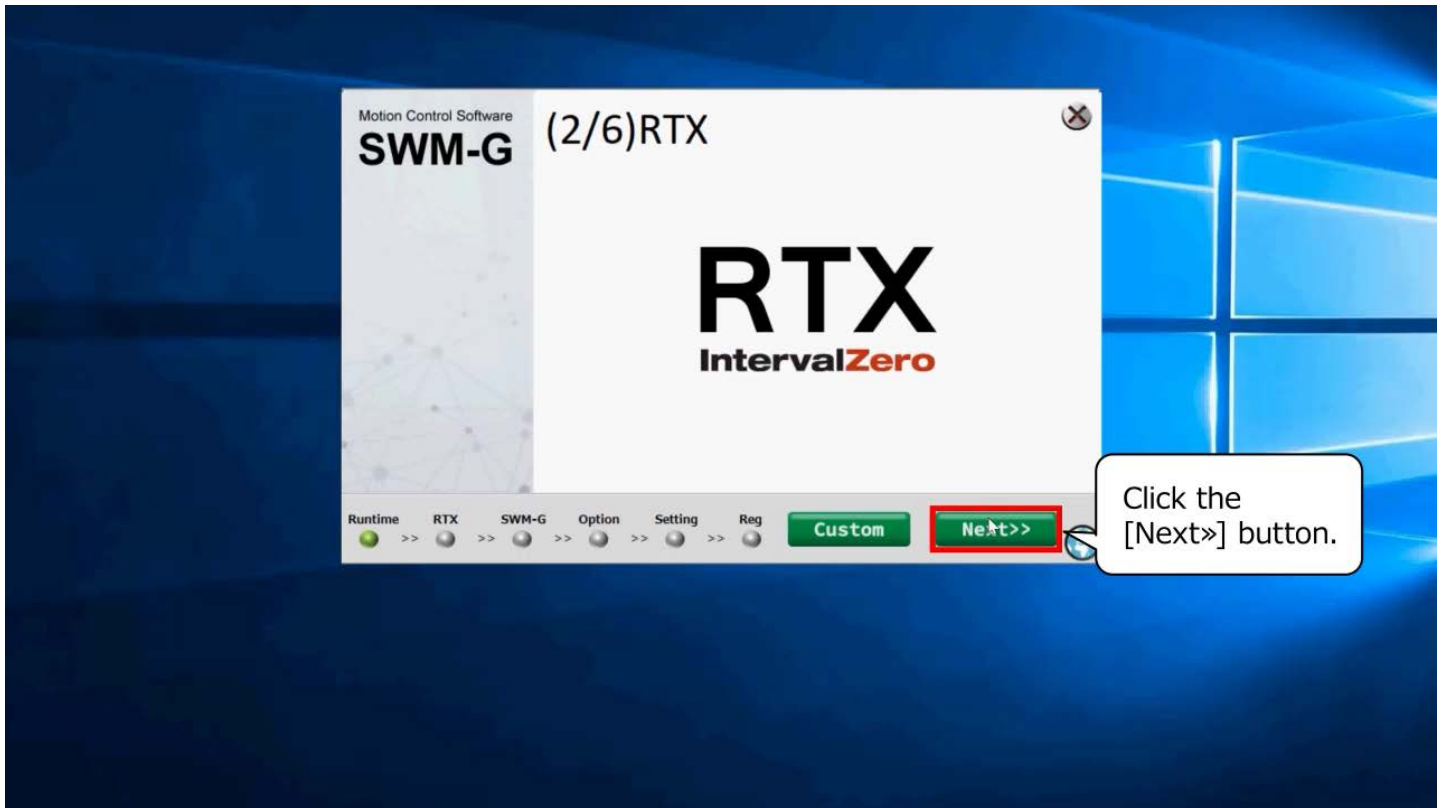


1.3.3

Installing RTX

Next, install RTX.

Check that the [(2/6)RTX] window is displayed. For the procedure, see the video below.

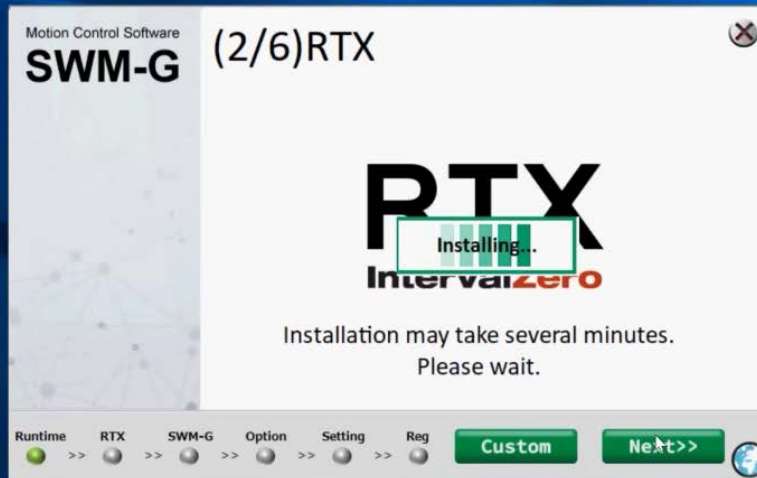


1.3.3

Installing RTX

Next, install RTX.

Check that the [(2/6)RTX] window is displayed. For the procedure, see the video below.



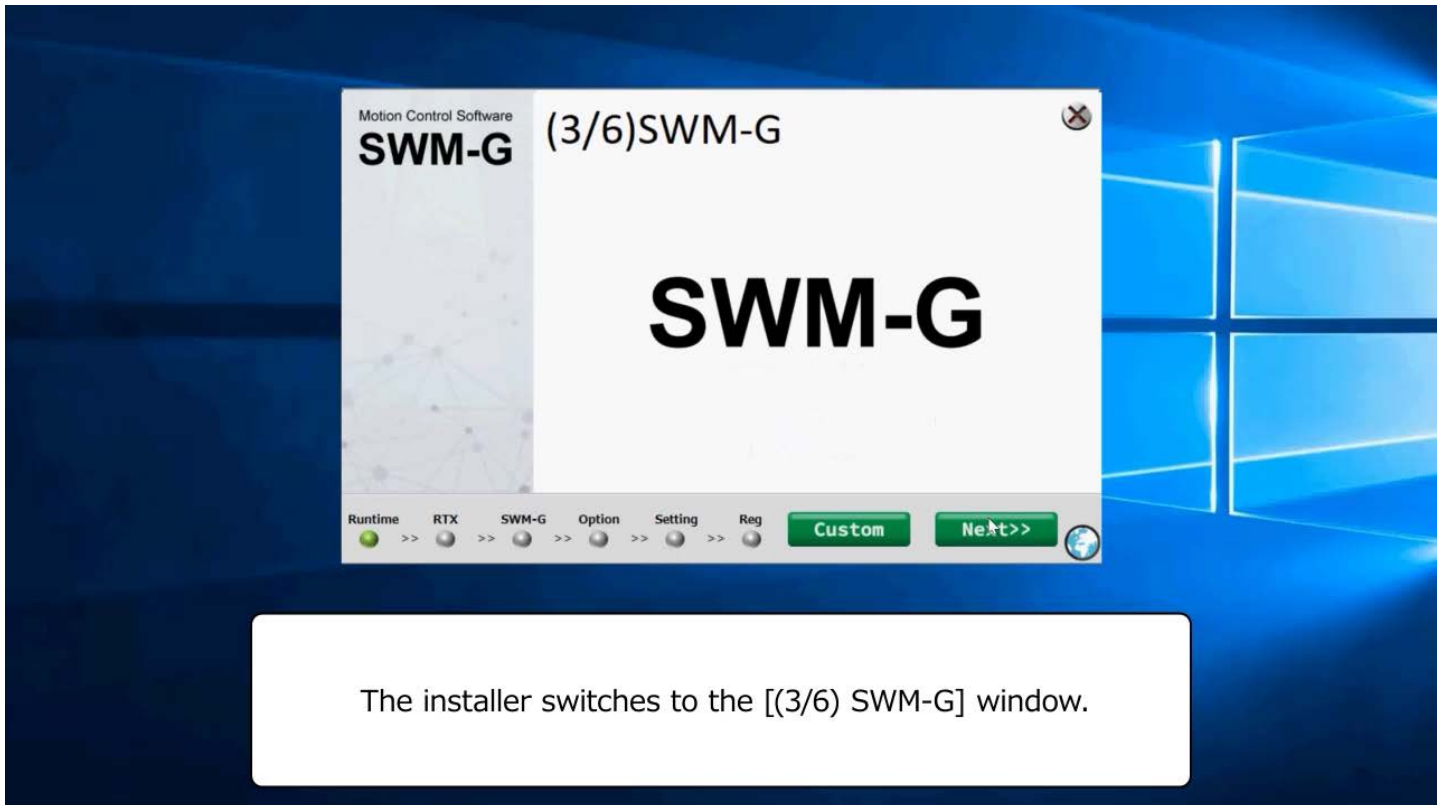
Installation of RTX will be completed within a few minutes.

1.3.3

Installing RTX

Next, install RTX.

Check that the [(2/6)RTX] window is displayed. For the procedure, see the video below.

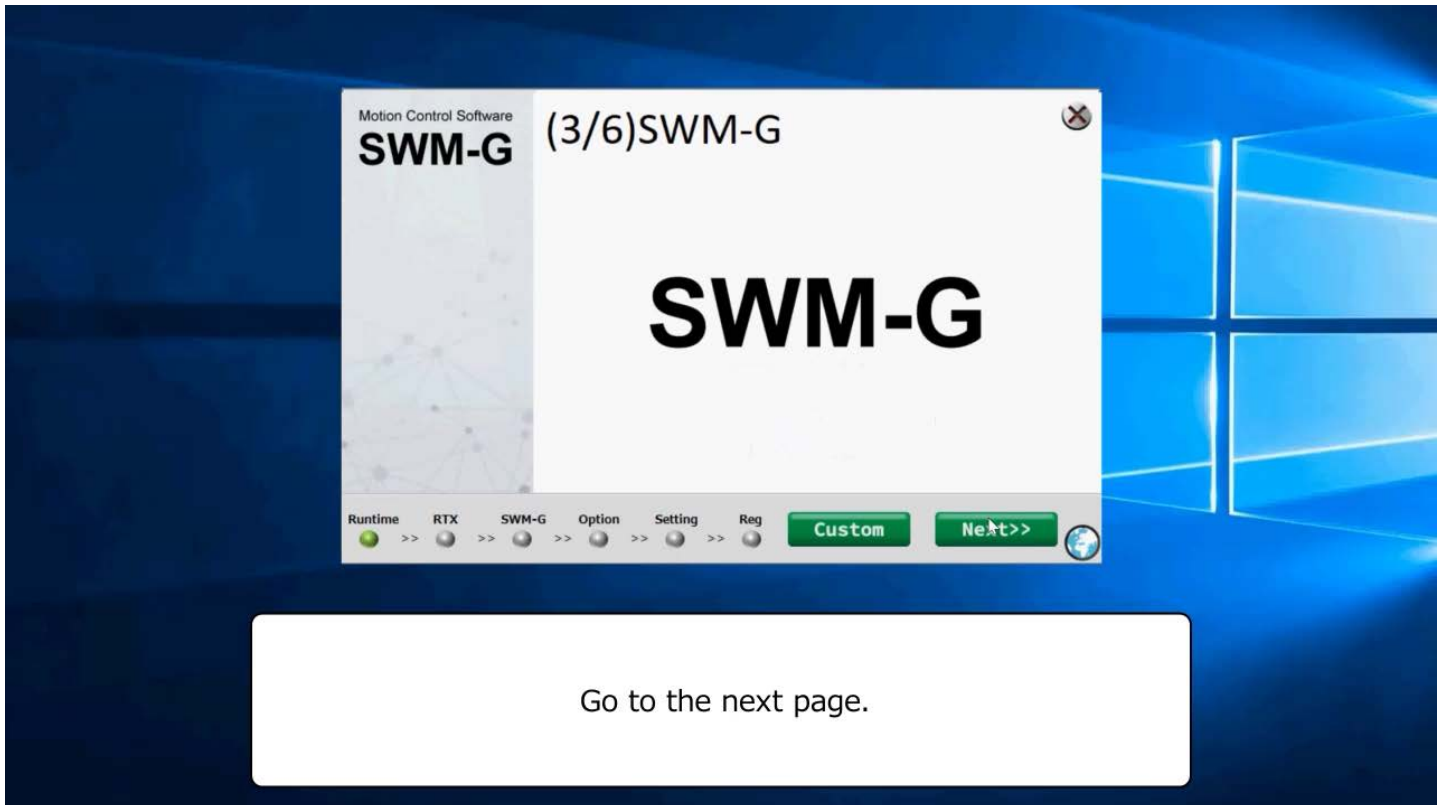


1.3.3

Installing RTX

Next, install RTX.

Check that the [(2/6)RTX] window is displayed. For the procedure, see the video below.

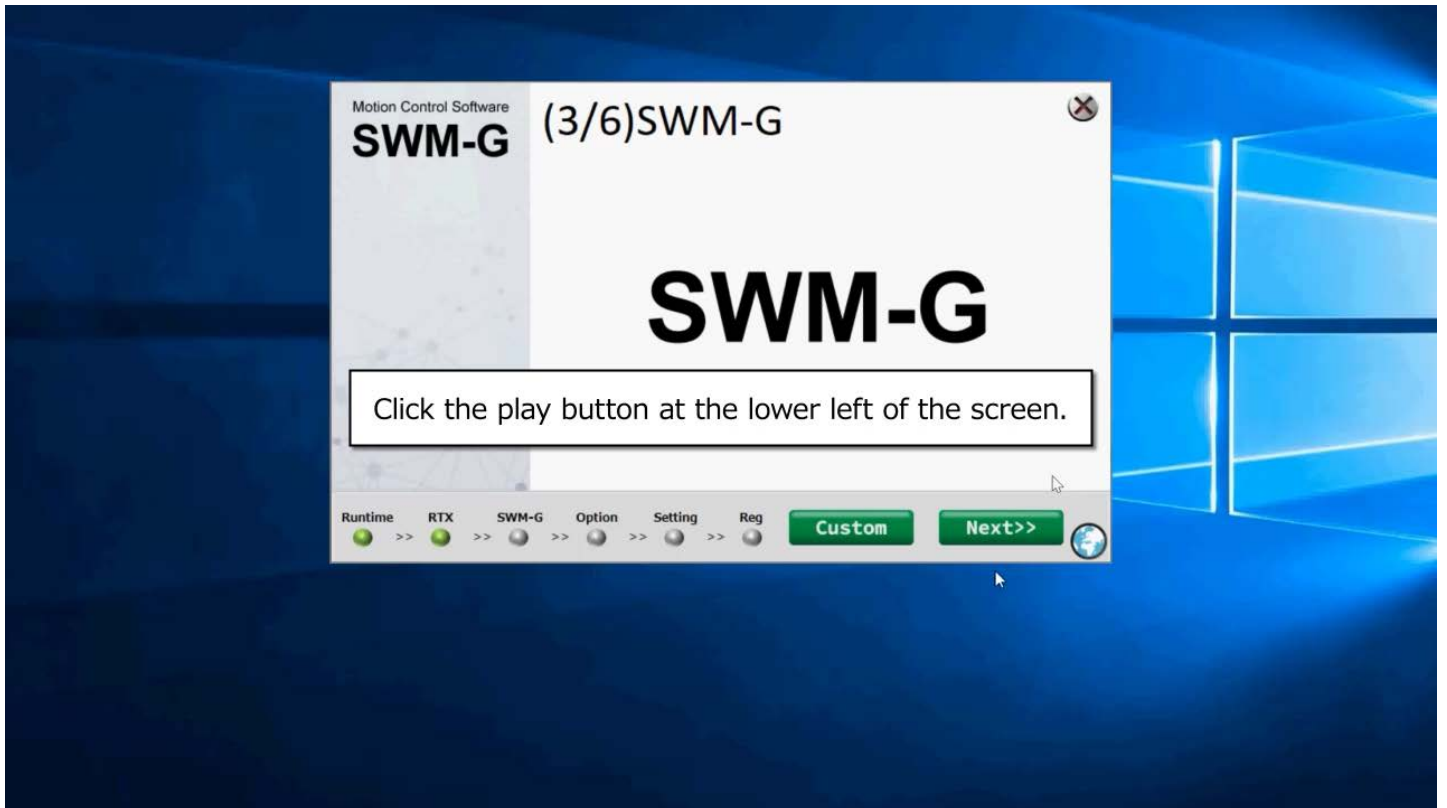


1.3.4

Installing SWM-G

Next, install SWM-G.

Check that the [(3/6)SWM-G] window is displayed. For the procedure, see the video below.

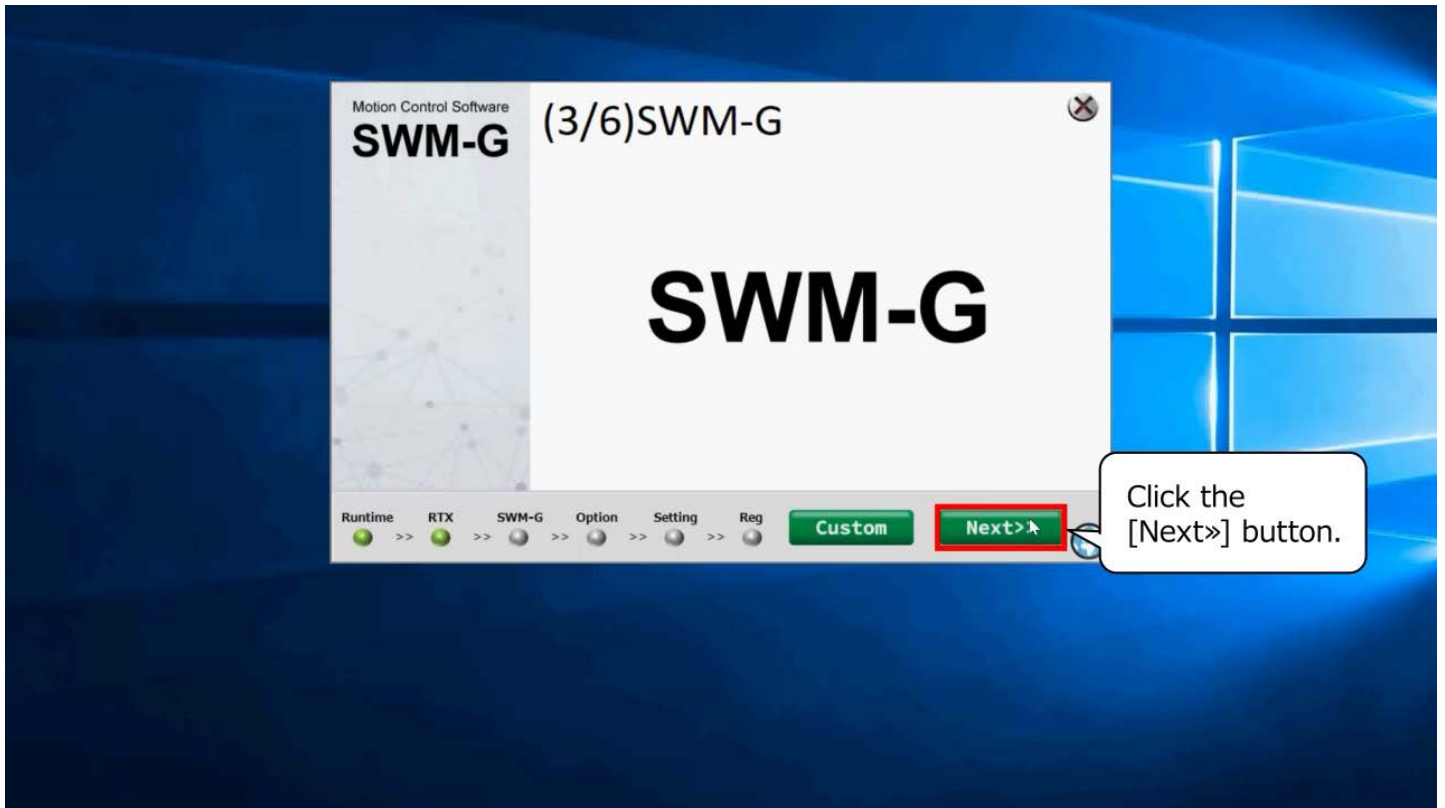


1.3.4

Installing SWM-G

Next, install SWM-G.

Check that the [(3/6)SWM-G] window is displayed. For the procedure, see the video below.

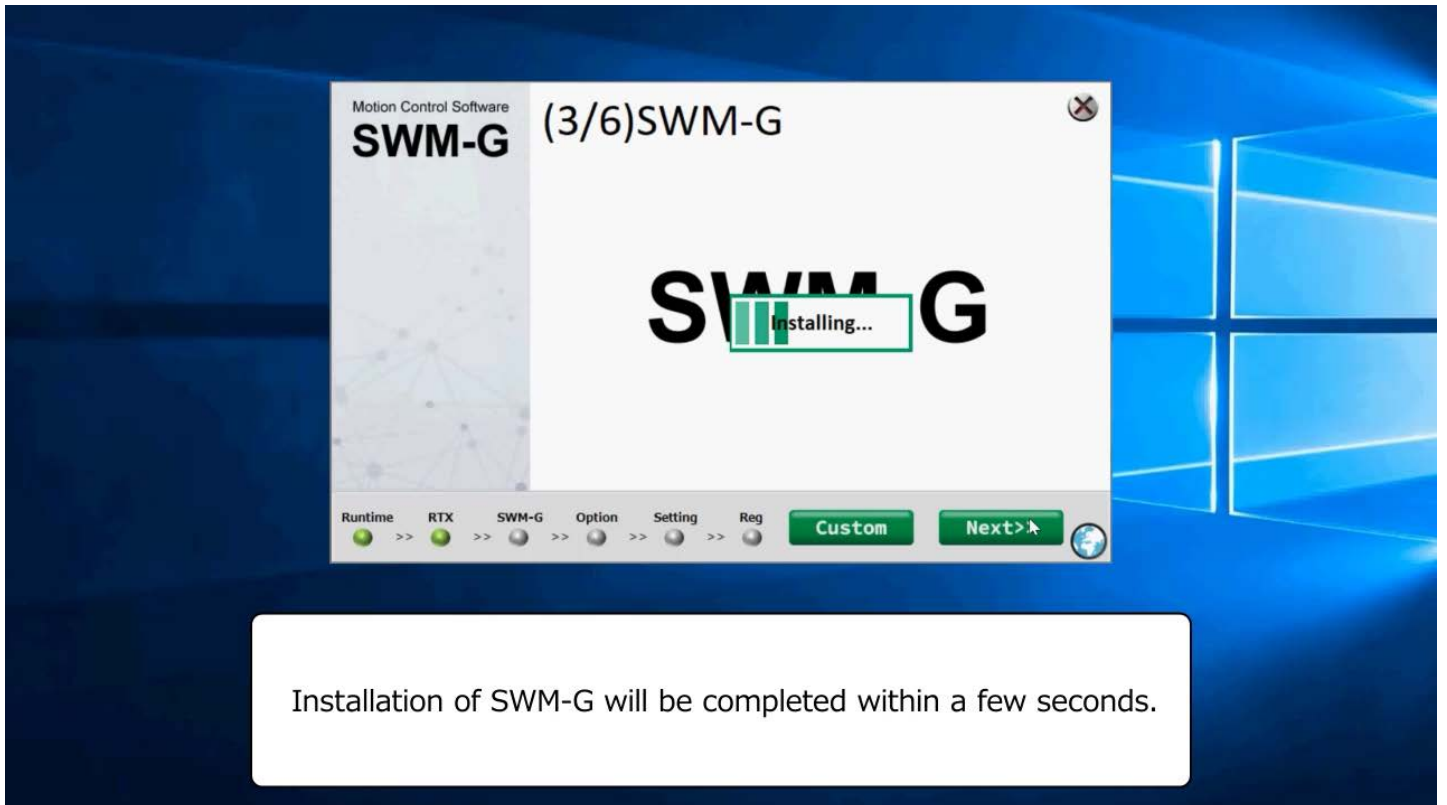


1.3.4

Installing SWM-G

Next, install SWM-G.

Check that the [(3/6)SWM-G] window is displayed. For the procedure, see the video below.



1.3.4

Installing SWM-G

Next, install SWM-G.

Check that the [(3/6)SWM-G] window is displayed. For the procedure, see the video below.



Next, install SWM-G.

Check that the [(3/6)SWM-G] window is displayed. For the procedure, see the video below.



Go to the next page.

1.3.5 Setting RTX

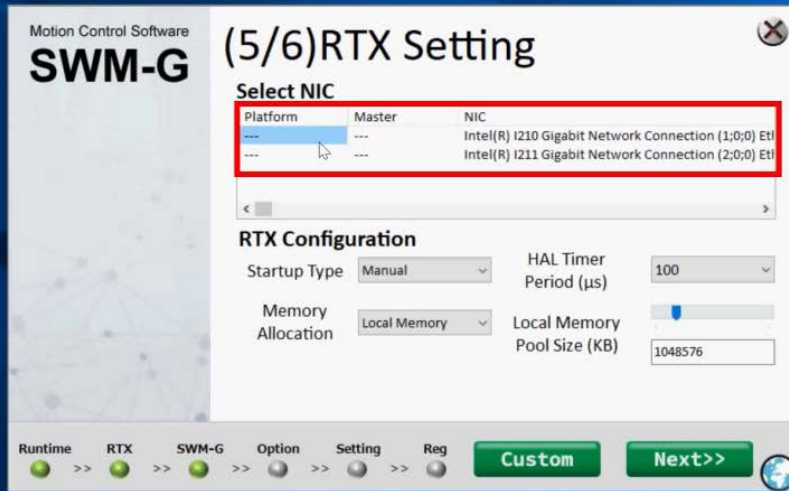
The software has been installed with the steps in the previous section. Next, configure the settings on RTX. Check that the [(5/6)RTX Setting] window is displayed. For the procedure, see the video below.



Click the play button at the lower left of the screen.

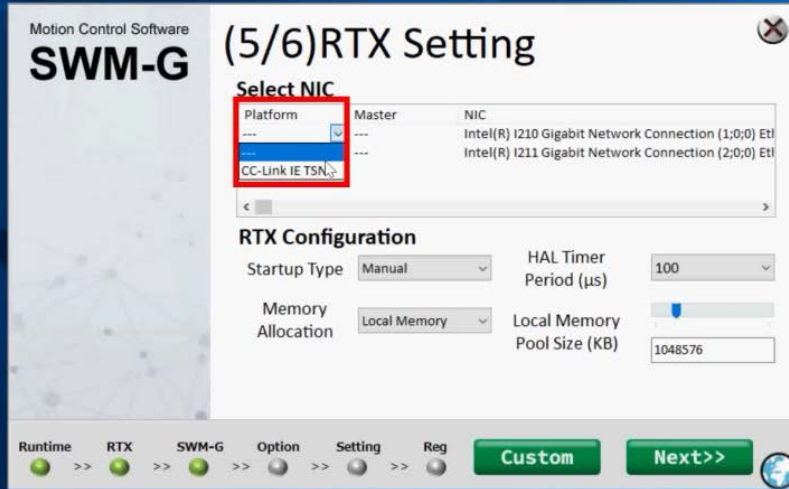
Select NIC to be used from the available NICs in the NIC selection box.

The software has been installed with the steps in the previous section. Next, configure the settings on RTX. Check that the [(5/6)RTX Setting] window is displayed. For the procedure, see the video below.



Select NIC to be used from the available NICs in the NIC selection box.

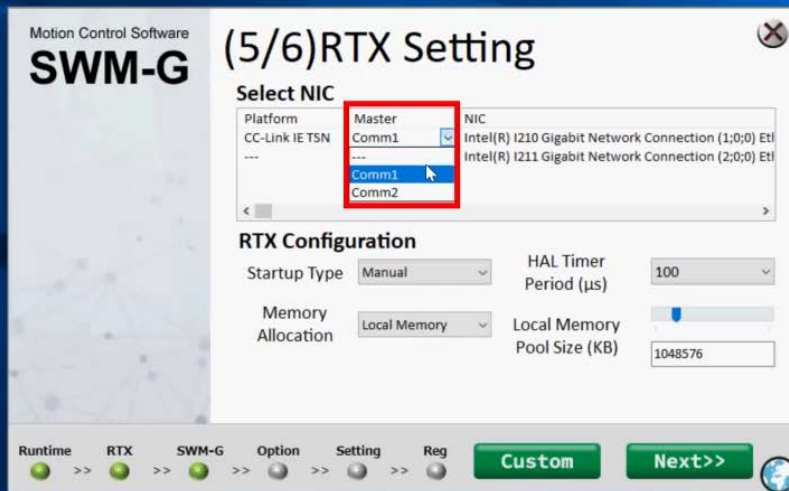
The software has been installed with the steps in the previous section. Next, configure the settings on RTX. Check that the [(5/6)RTX Setting] window is displayed. For the procedure, see the video below.



Select "CC-Link IE TSN" from the pull-down list of [Platform].

1.3.5 Setting RTX

The software has been installed with the steps in the previous section. Next, configure the settings on RTX. Check that the [(5/6)RTX Setting] window is displayed. For the procedure, see the video below.



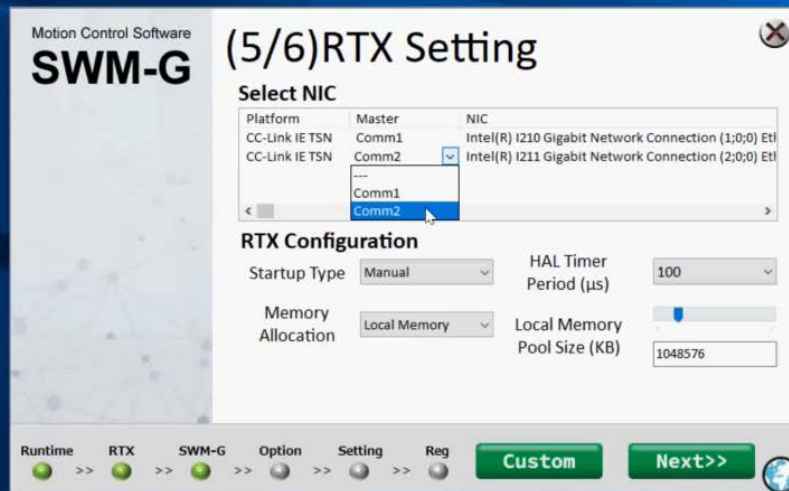
Select "Comm1" from the pull-down list of [Master].
When using two ports for the NIC driver, select "Comm2".

1.3.5 Setting RTX

The software has been installed with the steps in the previous section. Next, configure the settings on RTX. Check that the [(5/6)RTX Setting] window is displayed. For the procedure, see the video below.

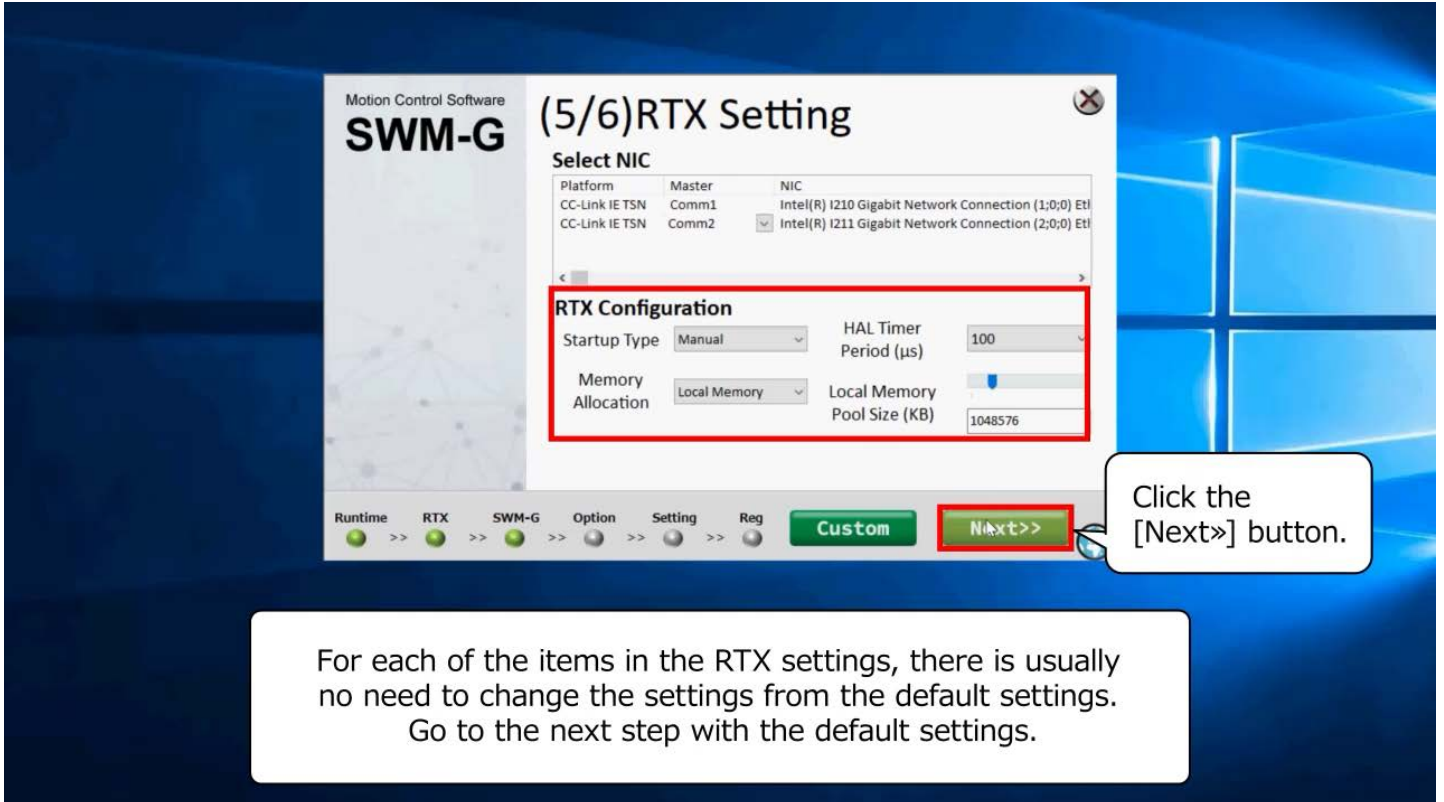


The software has been installed with the steps in the previous section. Next, configure the settings on RTX. Check that the [(5/6)RTX Setting] window is displayed. For the procedure, see the video below.



For the second port of the NIC driver, configure the setting in the same way.

The software has been installed with the steps in the previous section. Next, configure the settings on RTX. Check that the [(5/6)RTX Setting] window is displayed. For the procedure, see the video below.



Motion Control Software
SWM-G

(5/6) RTX Setting

Select NIC

Platform	Master	NIC
CC-Link IE TSN	Comm1	Intel(R) I210 Gigabit Network Connection (1;0;0) EtI
CC-Link IE TSN	Comm2	<input checked="" type="checkbox"/> Intel(R) I211 Gigabit Network Connection (2;0;0) EtI

RTX Configuration

Startup Type	Manual	HAL Timer Period (μs)	100
Memory Allocation	Local Memory	Local Memory Pool Size (KB)	1048576

Runtime >> RTX >> SWM-G >> Option >> Setting >> Reg >> Custom >> **Next>>**

Click the [Next>>] button.

For each of the items in the RTX settings, there is usually no need to change the settings from the default settings. Go to the next step with the default settings.

1.3.5 Setting RTX

The software has been installed with the steps in the previous section. Next, configure the settings on RTX. Check that the [(5/6)RTX Setting] window is displayed. For the procedure, see the video below.



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Go to the next page.

1.3.6

Registering the SWM-G license

Next, register the license and save the registration file.

1. Enter the license code written on the license certificate to authenticate the SWM-G license.
2. Save the registration file (Registration.txt) where the information required for support is written to the personal computer.
 - * If the USB key is broken, the serial number saved in the registration file (Registration.txt) is required.

Have the license certificate and USB key ready at hand.

Check that the [(6/6)Registration] window is displayed. For the procedure, see the video below.



1.3.6


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Check that the [(6/6)Registration] window is displayed. For the procedure, see the video below.



The screenshot shows the 'Motion Control Software SWM-G (6/6)Registration' window. It features three main sections: 'Register License Code' with a 'License Code' input field and a 'Register' button; 'Get License Code' with a 'Get' button; and 'RTX Activation and configuration' with an 'Activate' button. At the bottom, there are navigation buttons for 'SWM-G', 'Option', 'Setting', and 'Reg', along with 'Custom' and 'Next>>' buttons. A license certificate is displayed on the left, with a red box highlighting the 'LICENSE CODE' field. A red arrow points from this field to the 'License Code' input field in the registration window.

In the license code entry box,
enter the license code described in the license certificate.

1.3.6

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1.3.6

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Have the license certificate and USB key ready at hand.

Check that the [(6/6)Registration] window is displayed. For the procedure, see the video below.



1.3.6

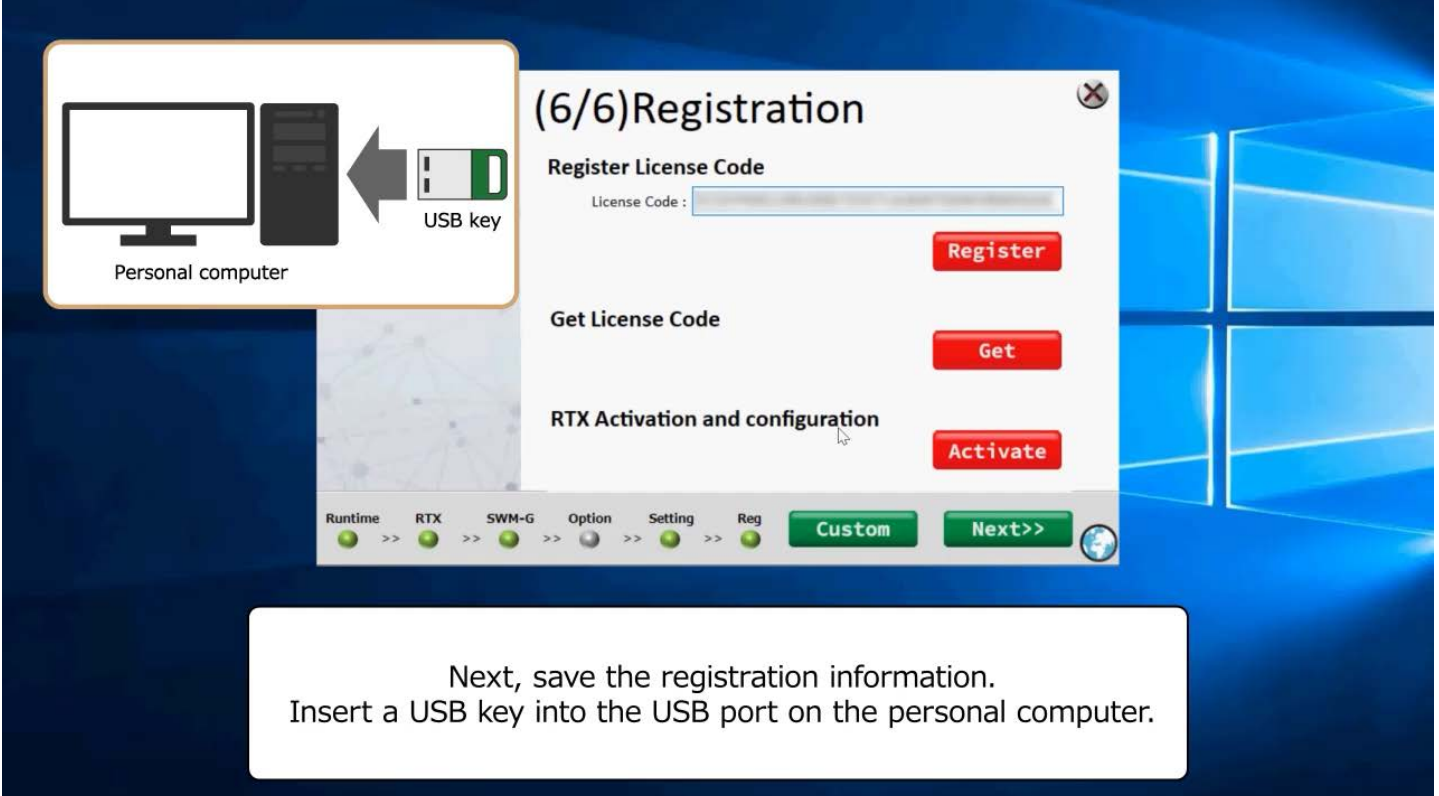
Registering the SWM-G license

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Have the license certificate and USB key ready at hand.

Check that the [(6/6)Registration] window is displayed. For the procedure, see the video below.



The screenshot shows a software registration window titled "(6/6)Registration". The window is divided into three main sections: "Register License Code", "Get License Code", and "RTX Activation and configuration". The "Register License Code" section has a text input field for "License Code:" and a red "Register" button. The "Get License Code" section has a red "Get" button. The "RTX Activation and configuration" section has a red "Activate" button. At the bottom of the window, there is a progress bar with several steps: "Runtime", "RTX", "SWM-G", "Option", "Setting", and "Reg". The "Reg" step is currently selected and highlighted in green. To the right of the progress bar are two green buttons: "Custom" and "Next>>".

Next, save the registration information.
Insert a USB key into the USB port on the personal computer.

1.3.6

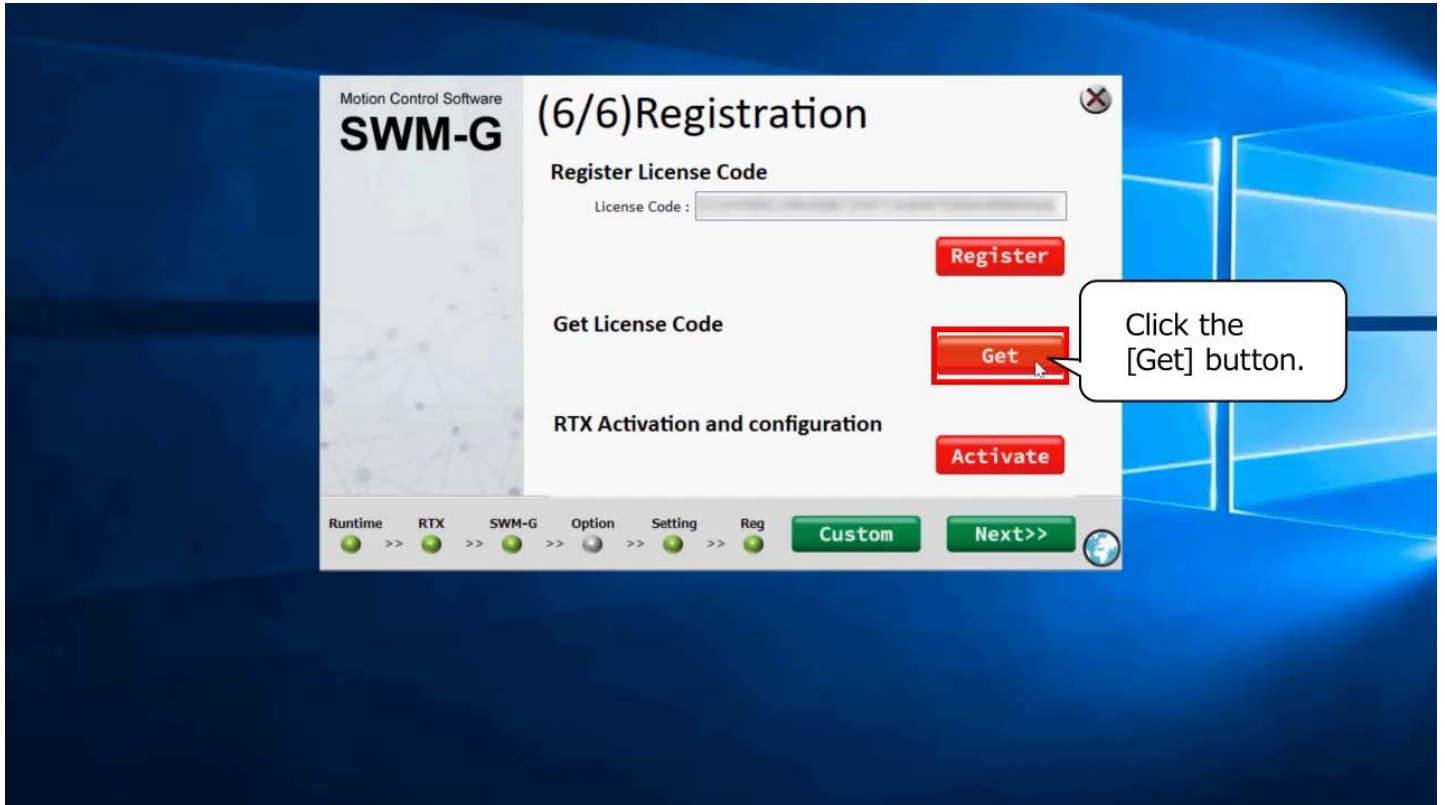
Registering the SWM-G license

Next, register the license and save the registration file.

1. Enter the license code written on the license certificate to authenticate the SWM-G license.
2. Save the registration file (Registration.txt) where the information required for support is written to the personal computer.
 - * If the USB key is broken, the serial number saved in the registration file (Registration.txt) is required.

Have the license certificate and USB key ready at hand.

Check that the [(6/6)Registration] window is displayed. For the procedure, see the video below.



1.3.6

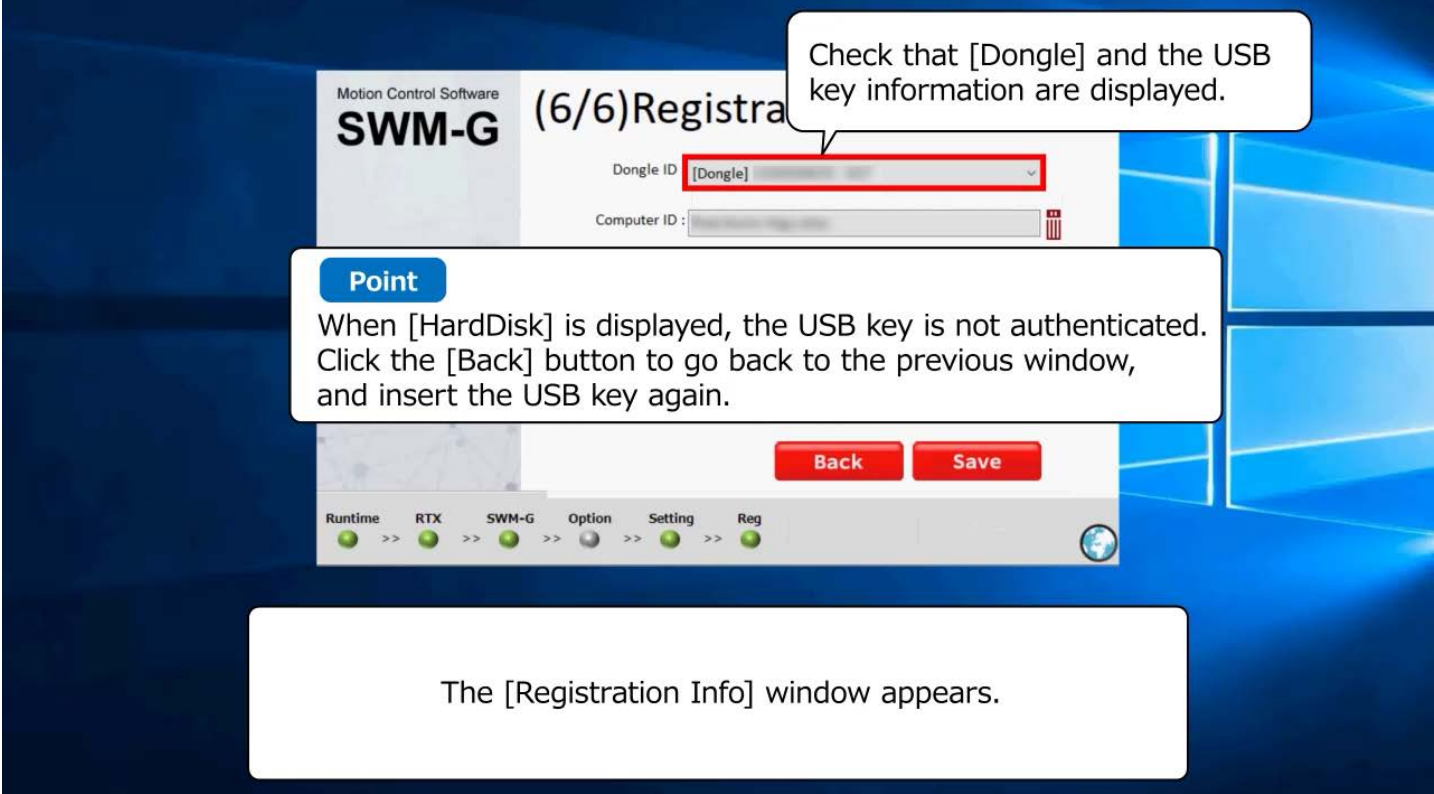
Registering the SWM-G license

Next, register the license and save the registration file.

1. Enter the license code written on the license certificate to authenticate the SWM-G license.
2. Save the registration file (Registration.txt) where the information required for support is written to the personal computer.
 - * If the USB key is broken, the serial number saved in the registration file (Registration.txt) is required.

Have the license certificate and USB key ready at hand.

Check that the [(6/6)Registration] window is displayed. For the procedure, see the video below.



The screenshot shows the 'Motion Control Software SWM-G (6/6)Registration' window. The 'Dongle ID' field contains '[Dongle]' and is highlighted with a red box. A callout bubble points to this field with the text: 'Check that [Dongle] and the USB key information are displayed.' Below the registration fields is a 'Point' box with the text: 'When [HardDisk] is displayed, the USB key is not authenticated. Click the [Back] button to go back to the previous window, and insert the USB key again.' At the bottom of the window are 'Back' and 'Save' buttons. A progress bar at the very bottom shows 'Runtime', 'RTX', 'SWM-G', 'Option', 'Setting', and 'Reg' with arrows indicating the current step. A white box at the bottom of the image contains the text: 'The [Registration Info] window appears.'

1.3.6

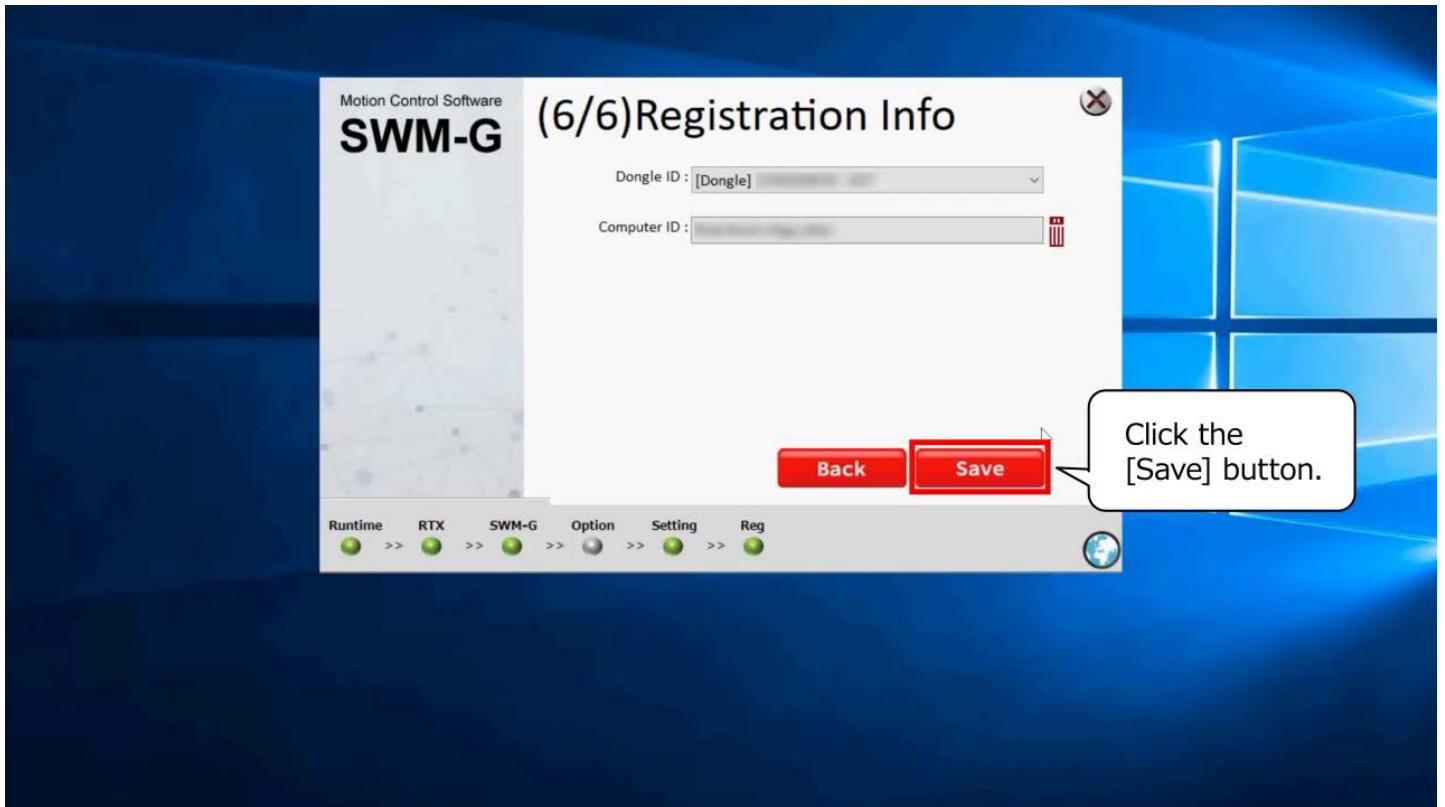
Registering the SWM-G license

Next, register the license and save the registration file.

1. Enter the license code written on the license certificate to authenticate the SWM-G license.
2. Save the registration file (Registration.txt) where the information required for support is written to the personal computer.
 - * If the USB key is broken, the serial number saved in the registration file (Registration.txt) is required.

Have the license certificate and USB key ready at hand.

Check that the [(6/6)Registration] window is displayed. For the procedure, see the video below.



1.3.6

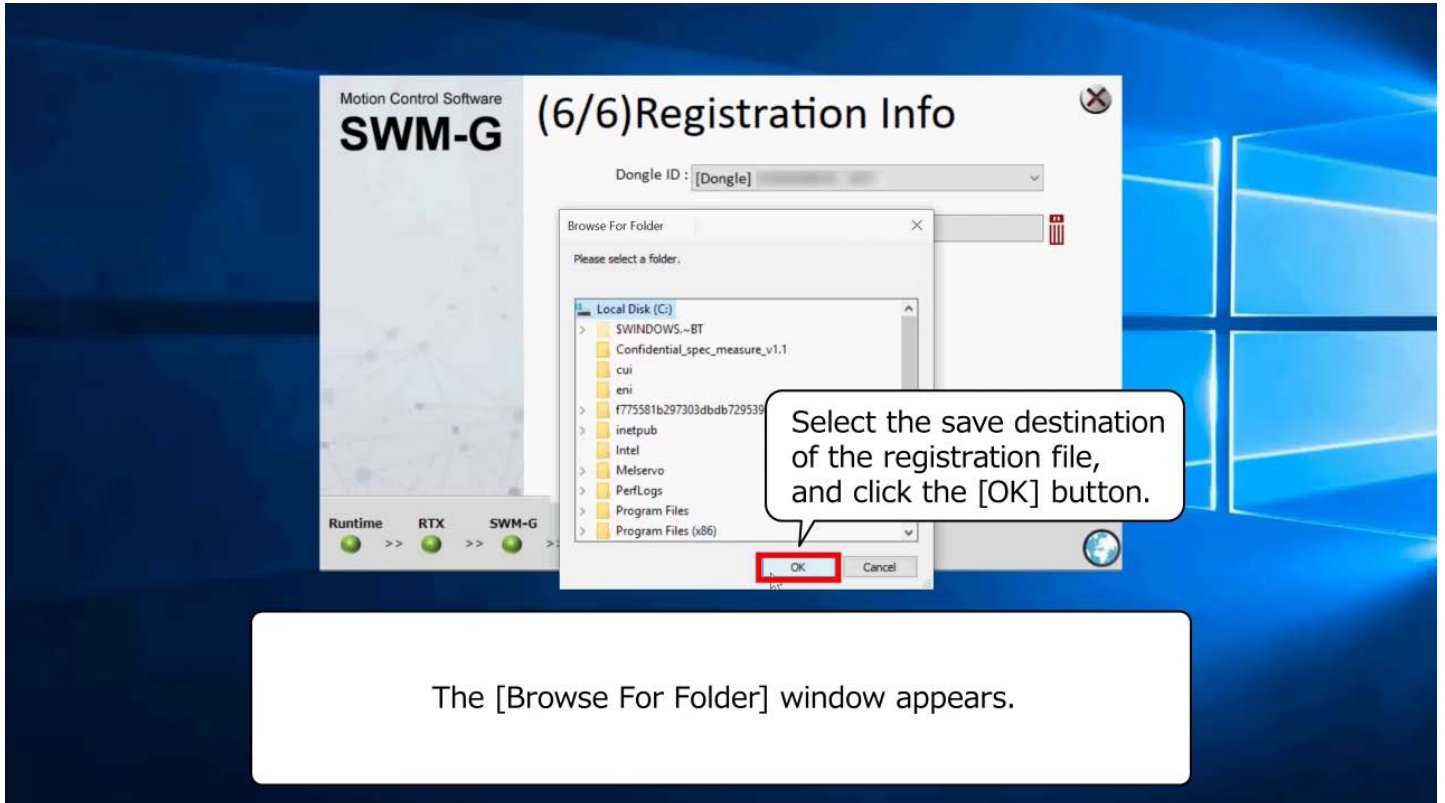
Registering the SWM-G license

Next, register the license and save the registration file.

1. Enter the license code written on the license certificate to authenticate the SWM-G license.
2. Save the registration file (Registration.txt) where the information required for support is written to the personal computer.
 - * If the USB key is broken, the serial number saved in the registration file (Registration.txt) is required.

Have the license certificate and USB key ready at hand.

Check that the [(6/6)Registration] window is displayed. For the procedure, see the video below.



1.3.6

Registering the SWM-G license

Next, register the license and save the registration file.

1. Enter the license code written on the license certificate to authenticate the SWM-G license.
2. Save the registration file (Registration.txt) where the information required for support is written to the personal computer.
 - * If the USB key is broken, the serial number saved in the registration file (Registration.txt) is required.

Have the license certificate and USB key ready at hand.

Check that the [(6/6)Registration] window is displayed. For the procedure, see the video below.



1.3.6

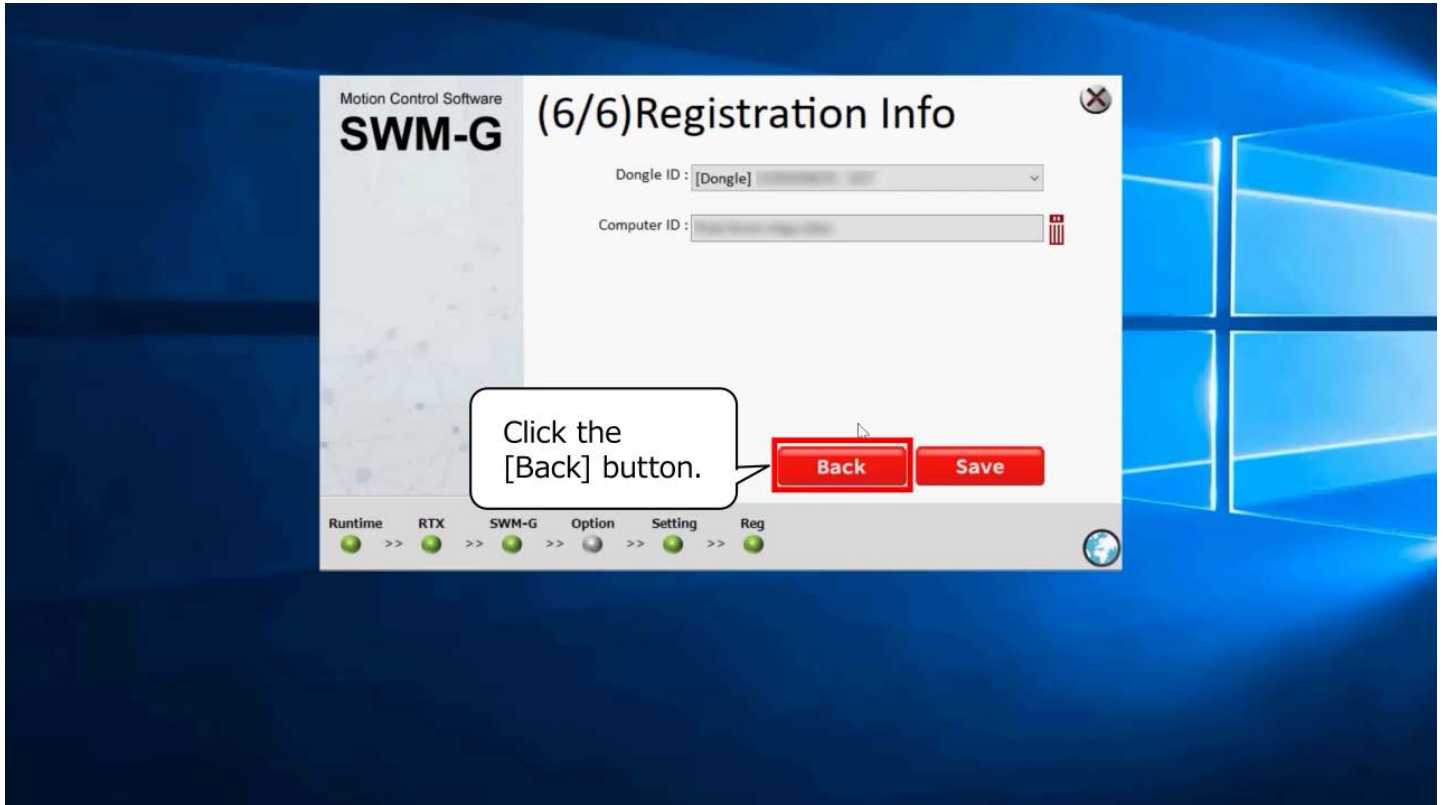
Registering the SWM-G license

Next, register the license and save the registration file.

1. Enter the license code written on the license certificate to authenticate the SWM-G license.
2. Save the registration file (Registration.txt) where the information required for support is written to the personal computer.
 - * If the USB key is broken, the serial number saved in the registration file (Registration.txt) is required.

Have the license certificate and USB key ready at hand.

Check that the [(6/6)Registration] window is displayed. For the procedure, see the video below.



1.3.6

Registering the SWM-G license

Next, register the license and save the registration file.

1. Enter the license code written on the license certificate to authenticate the SWM-G license.
2. Save the registration file (Registration.txt) where the information required for support is written to the personal computer.
 - * If the USB key is broken, the serial number saved in the registration file (Registration.txt) is required.

Have the license certificate and USB key ready at hand.

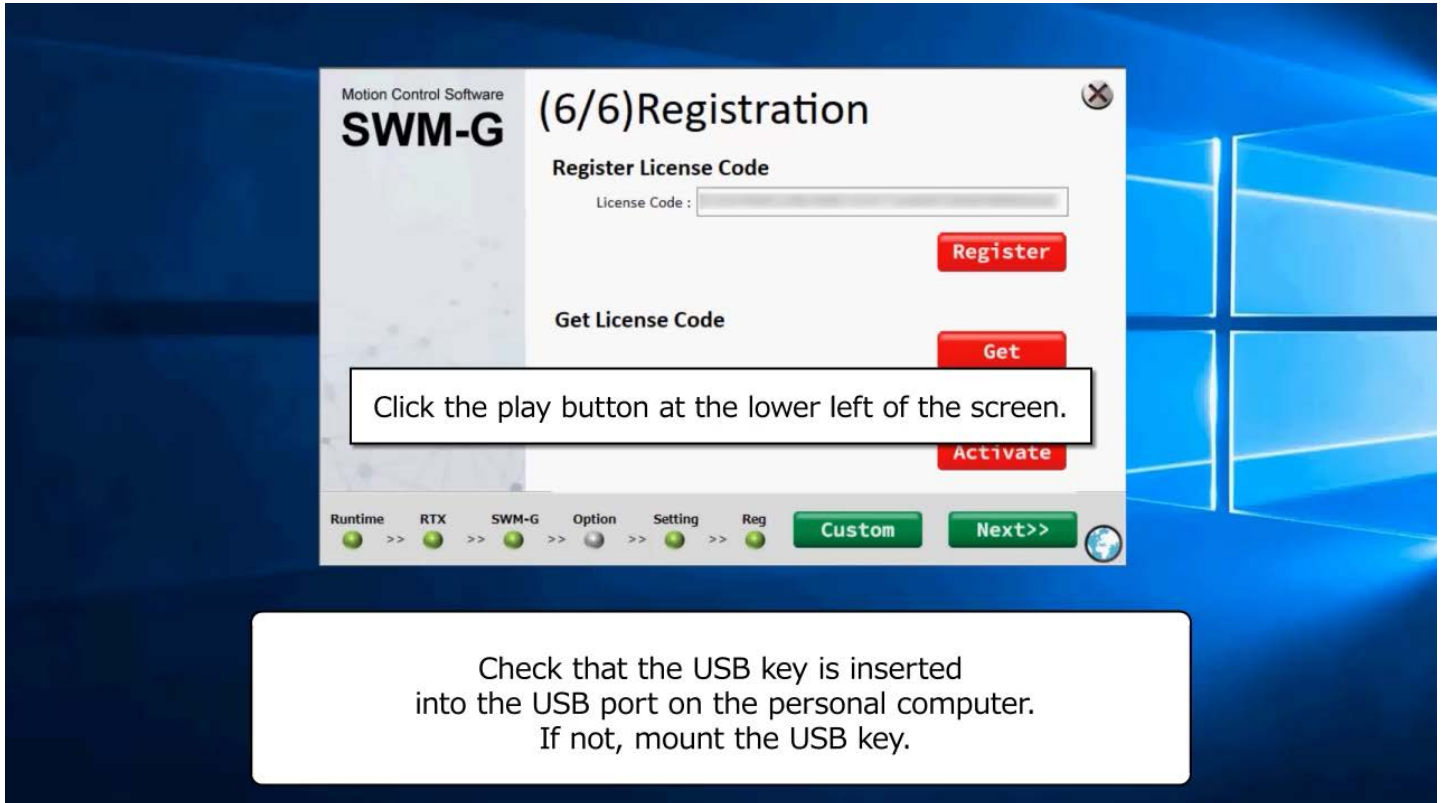
Check that the [(6/6)Registration] window is displayed. For the procedure, see the video below.



Next, authenticate the RTX license and assign cores. In this procedure, the USB key is required. Before the operation, check the following.

- Number of CPU cores of the personal computer to be used
- The [(6/6)Registration] window is displayed.

For the procedure, see the video below.



Next, authenticate the RTX license and assign cores. In this procedure, the USB key is required. Before the operation, check the following.

- Number of CPU cores of the personal computer to be used
- The [(6/6)Registration] window is displayed.

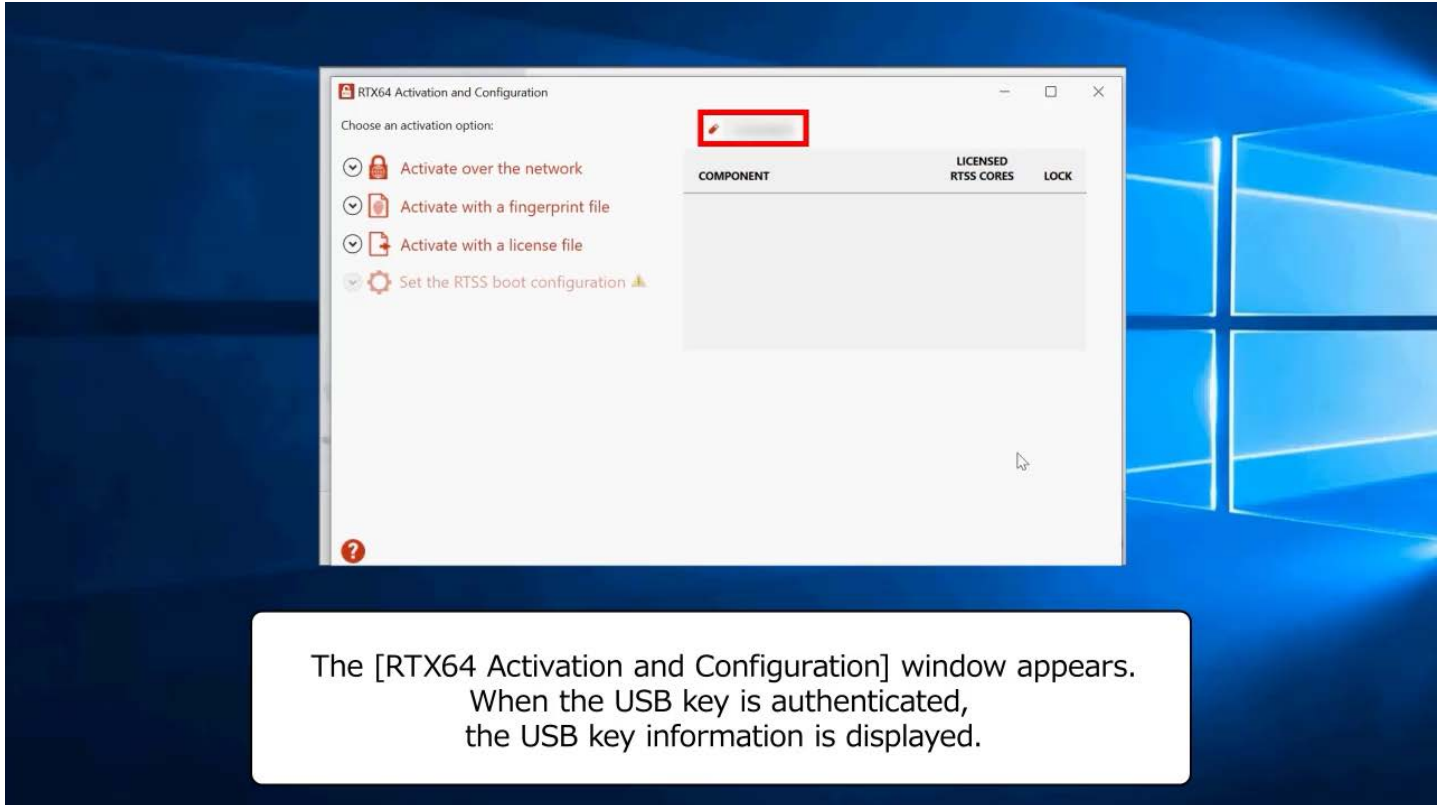
For the procedure, see the video below.

Check that the USB key is inserted into the USB port on the personal computer. If not, mount the USB key.

Next, authenticate the RTX license and assign cores. In this procedure, the USB key is required. Before the operation, check the following.

- Number of CPU cores of the personal computer to be used
- The [(6/6)Registration] window is displayed.

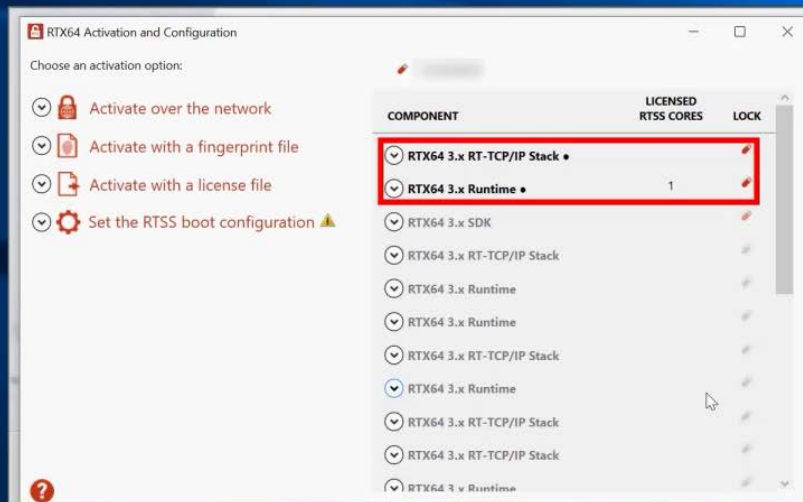
For the procedure, see the video below.



Next, authenticate the RTX license and assign cores. In this procedure, the USB key is required. Before the operation, check the following.

- Number of CPU cores of the personal computer to be used
- The [(6/6)Registration] window is displayed.

For the procedure, see the video below.

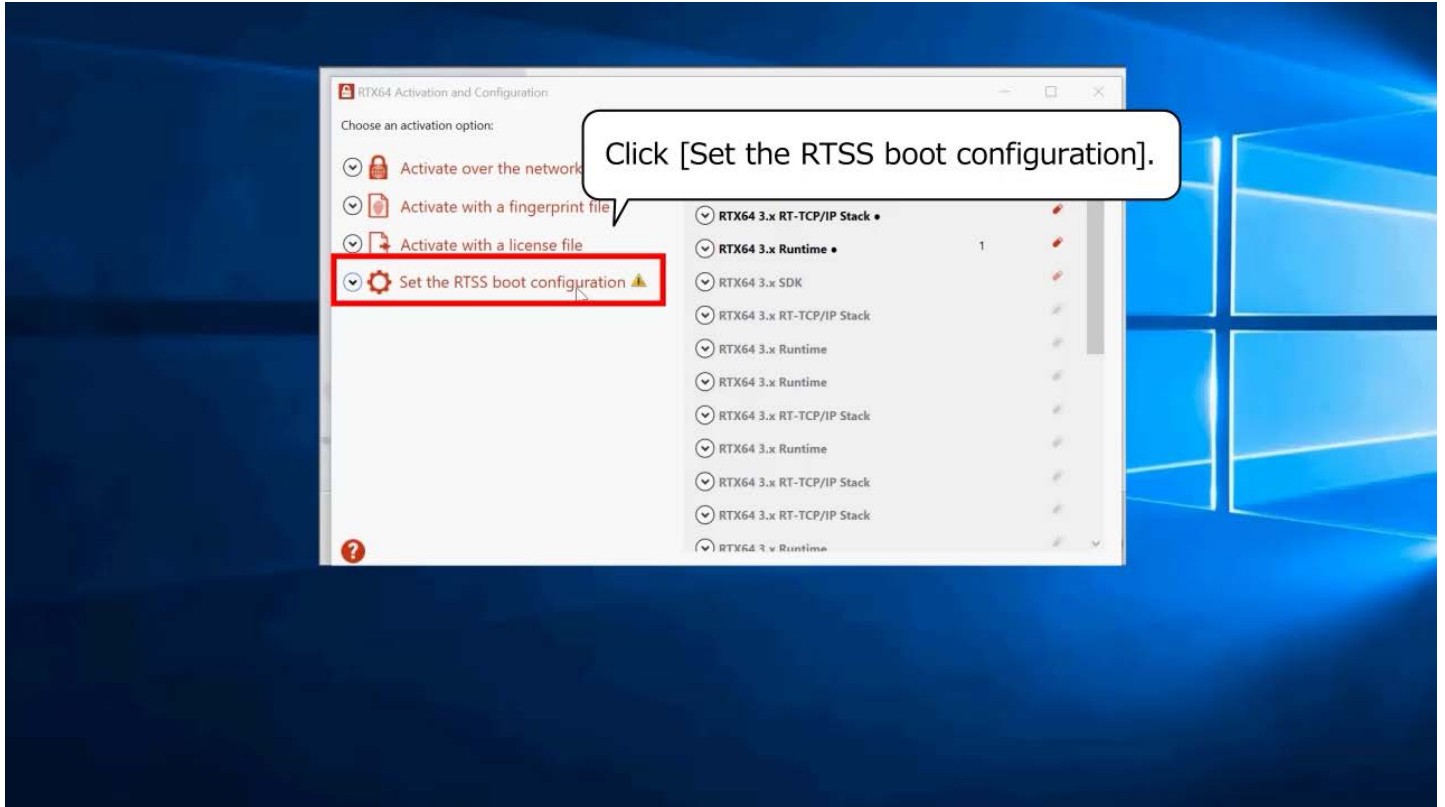


The licenses corresponding to the USB key in use are displayed in dark color and the icons appear in the LOCK column.

Next, authenticate the RTX license and assign cores. In this procedure, the USB key is required. Before the operation, check the following.

- Number of CPU cores of the personal computer to be used
- The [(6/6)Registration] window is displayed.

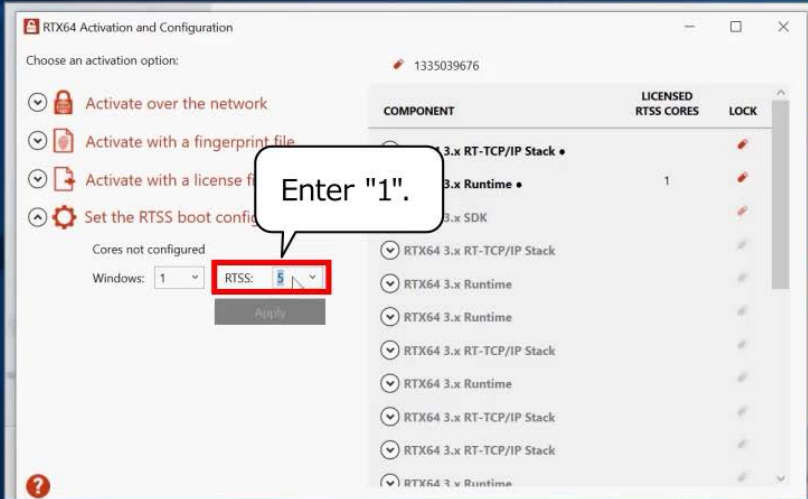
For the procedure, see the video below.



Next, authenticate the RTX license and assign cores. In this procedure, the USB key is required. Before the operation, check the following.

- Number of CPU cores of the personal computer to be used
- The [(6/6)Registration] window is displayed.

For the procedure, see the video below.



The screenshot shows the 'RTX64 Activation and Configuration' window. On the left, under 'Choose an activation option:', the 'Set the RTSS boot configuration' option is selected. Below this, the 'Cores not configured' section shows 'Windows: 1' and 'RTSS: 1'. A red box highlights the 'RTSS' dropdown menu, and a callout bubble points to it with the text 'Enter "1"'. On the right, a table lists components and their licensed RTSS cores.

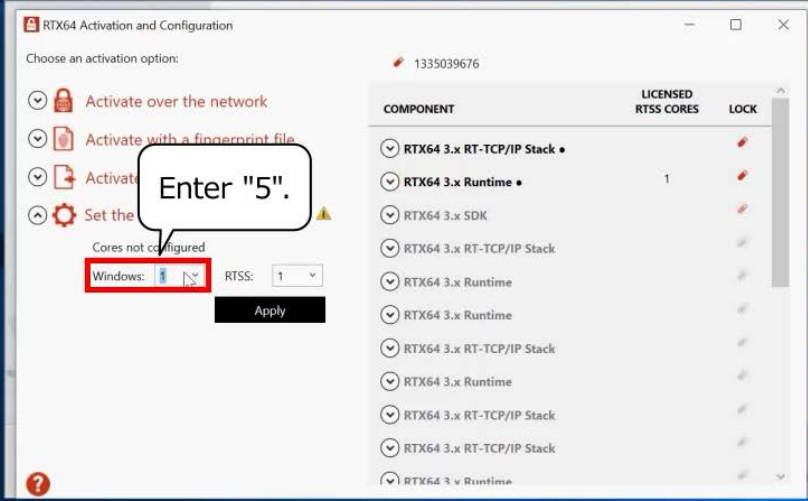
COMPONENT	LICENSED RTSS CORES	LOCK
3.x RT-TCP/IP Stack		
3.x Runtime	1	
3.x SDK		
RTX64 3.x RT-TCP/IP Stack		
RTX64 3.x Runtime		
RTX64 3.x Runtime		
RTX64 3.x RT-TCP/IP Stack		
RTX64 3.x Runtime		
RTX64 3.x RT-TCP/IP Stack		
RTX64 3.x Runtime		
RTX64 3.x RT-TCP/IP Stack		
RTX64 3.x Runtime		

The setting item for assigning the number of cores is displayed.
Assign the number of cores "1" to "RTSS".
Assign the number of cores which is obtained by subtracting 1 from the number of CPU cores of the computer to be used to "Windows".
The above window shows a setting example when the number of CPU cores is "6".

Next, authenticate the RTX license and assign cores. In this procedure, the USB key is required. Before the operation, check the following.

- Number of CPU cores of the personal computer to be used
- The [(6/6)Registration] window is displayed.

For the procedure, see the video below.

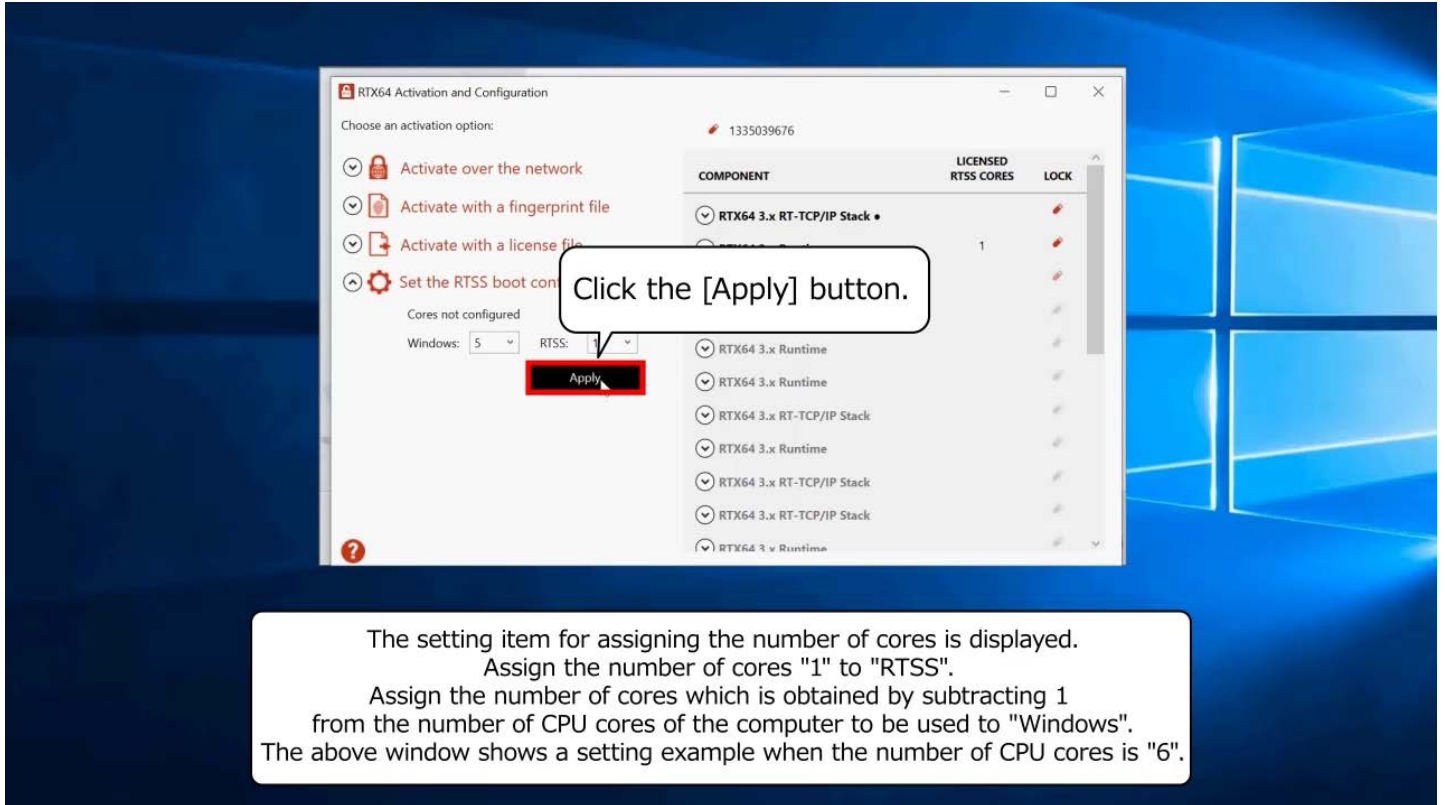


The setting item for assigning the number of cores is displayed.
Assign the number of cores "1" to "RTSS".
Assign the number of cores which is obtained by subtracting 1 from the number of CPU cores of the computer to be used to "Windows".
The above window shows a setting example when the number of CPU cores is "6".

Next, authenticate the RTX license and assign cores. In this procedure, the USB key is required. Before the operation, check the following.

- Number of CPU cores of the personal computer to be used
- The [(6/6)Registration] window is displayed.

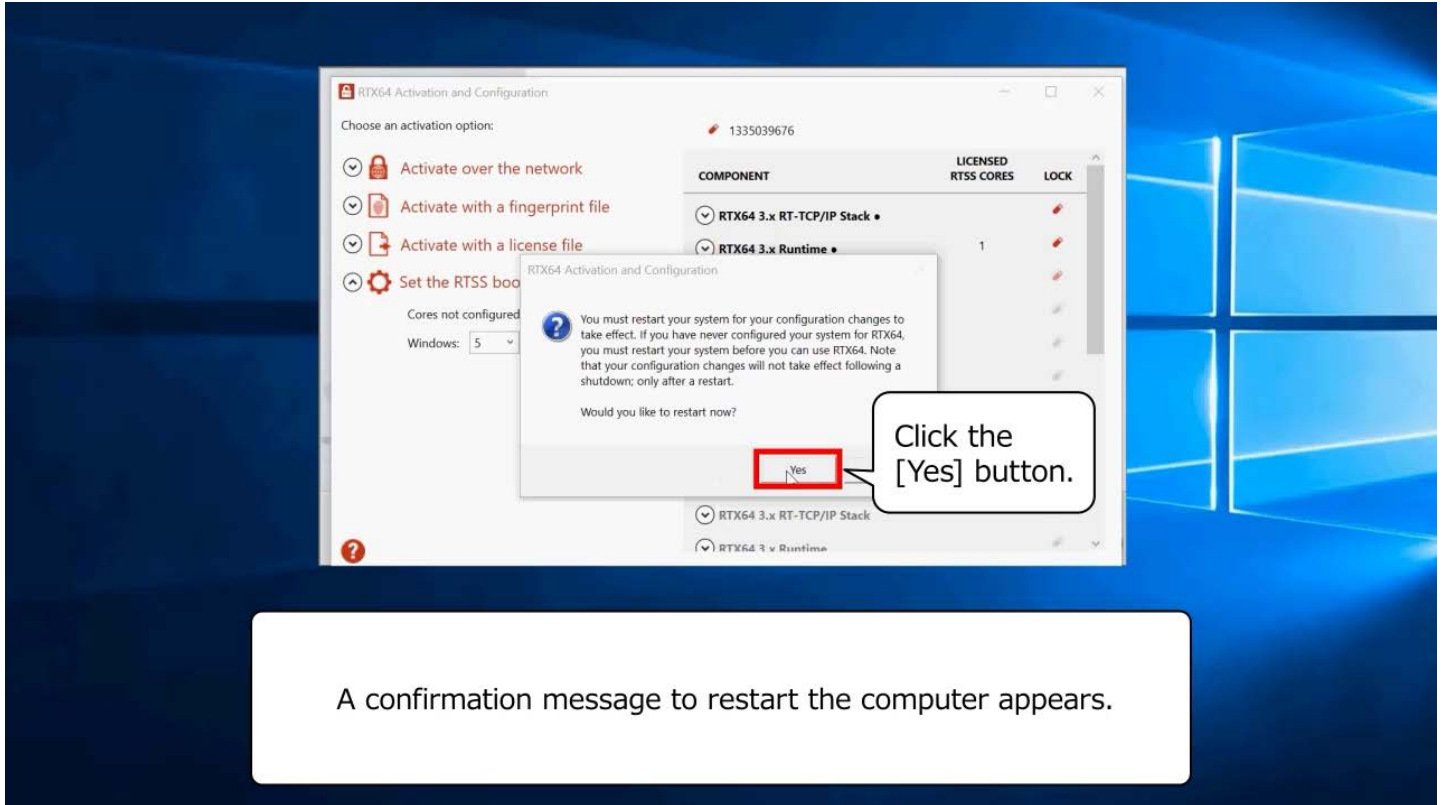
For the procedure, see the video below.



Next, authenticate the RTX license and assign cores. In this procedure, the USB key is required. Before the operation, check the following.

- Number of CPU cores of the personal computer to be used
- The [(6/6)Registration] window is displayed.

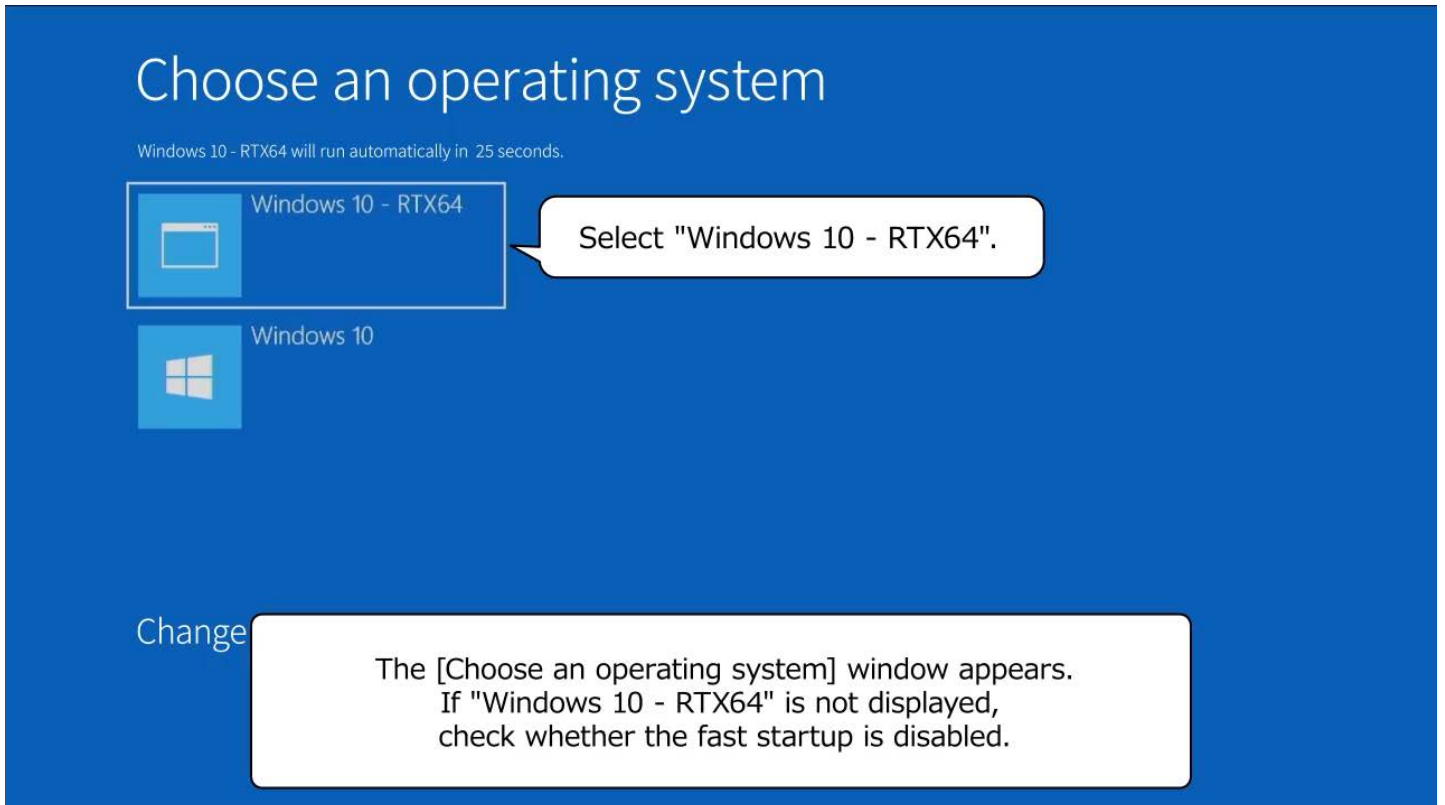
For the procedure, see the video below.



Next, authenticate the RTX license and assign cores. In this procedure, the USB key is required. Before the operation, check the following.

- Number of CPU cores of the personal computer to be used
- The [(6/6)Registration] window is displayed.

For the procedure, see the video below.



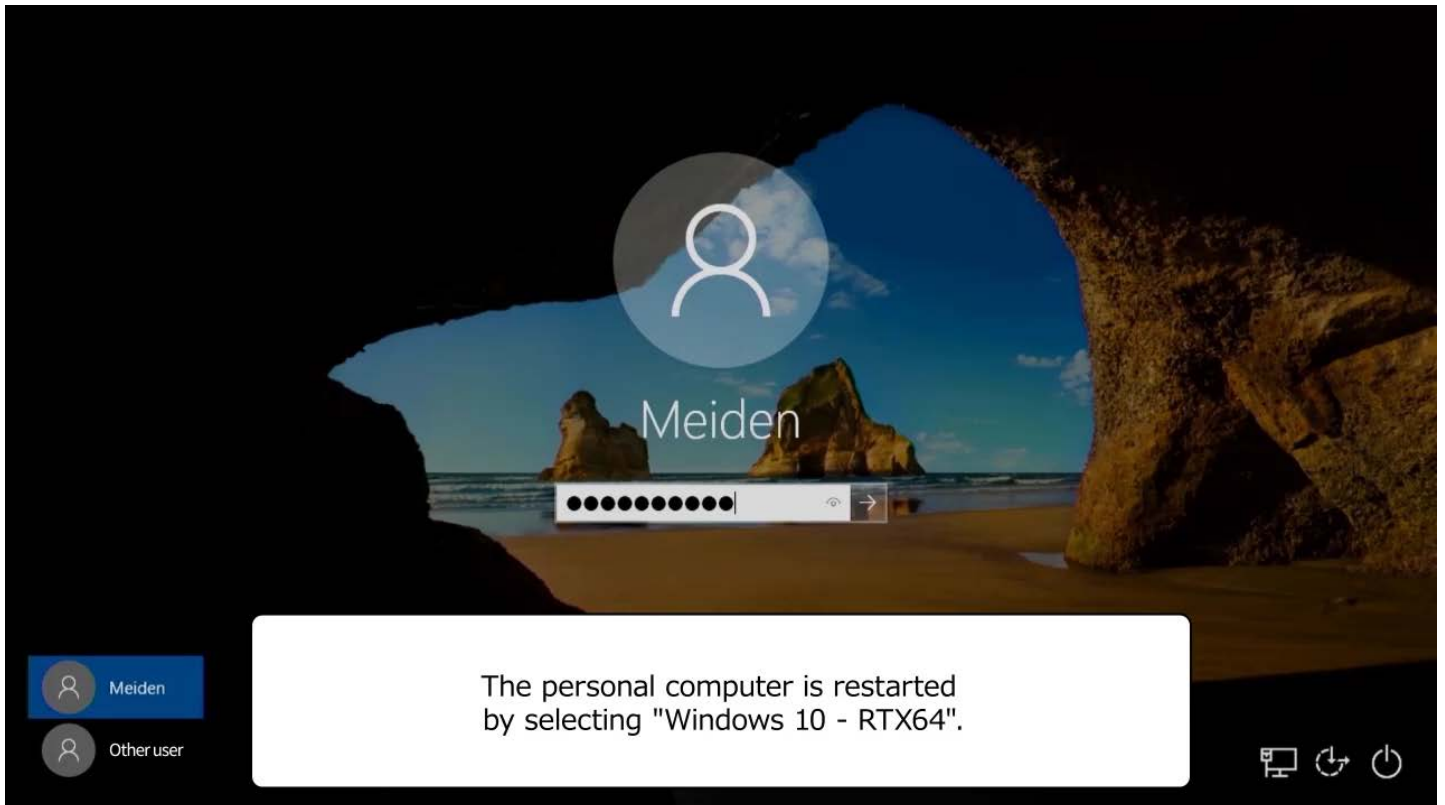
1.3.7

Authenticating the RTX license and assigning cores

Next, authenticate the RTX license and assign cores. In this procedure, the USB key is required. Before the operation, check the following.

- Number of CPU cores of the personal computer to be used
- The [(6/6)Registration] window is displayed.

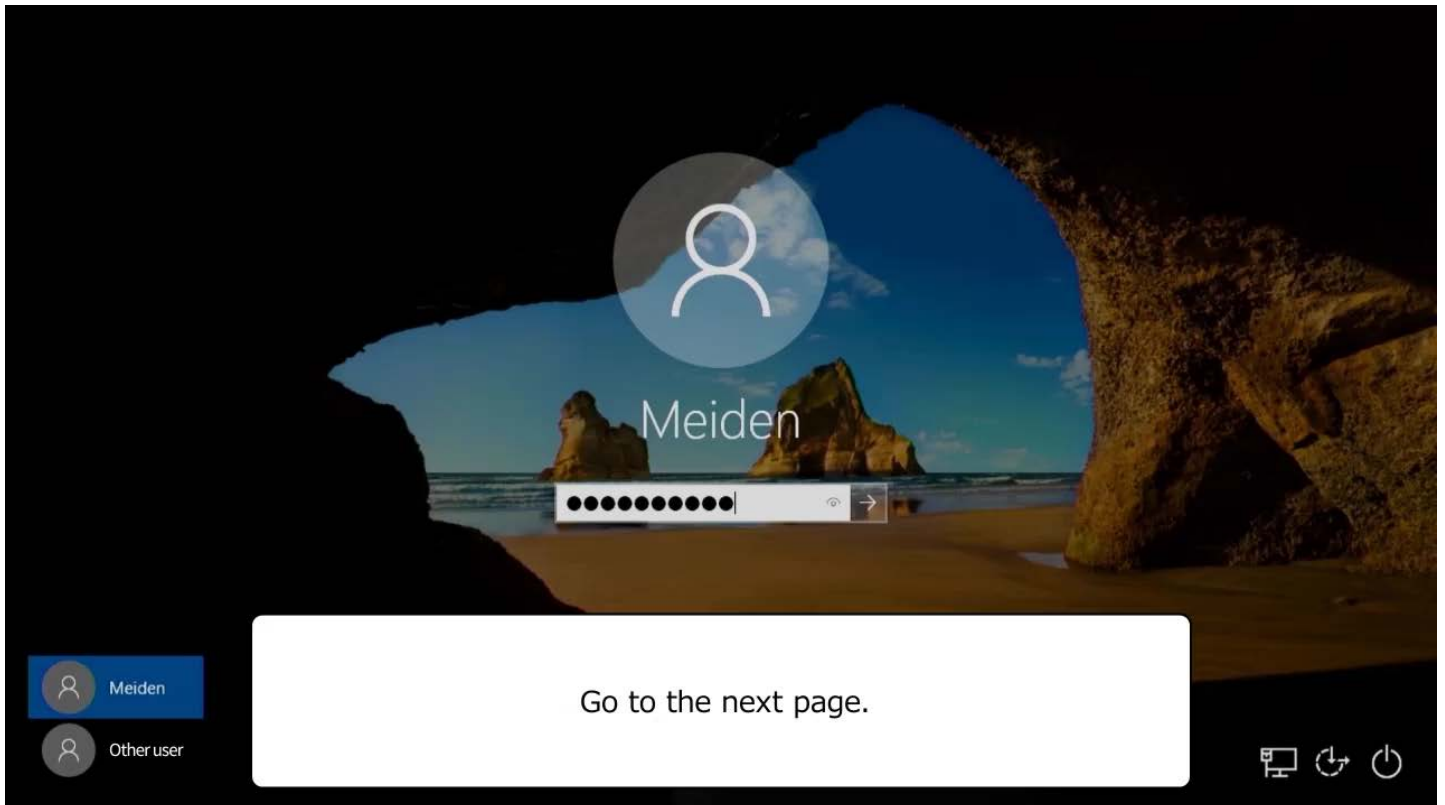
For the procedure, see the video below.



Next, authenticate the RTX license and assign cores. In this procedure, the USB key is required. Before the operation, check the following.

- Number of CPU cores of the personal computer to be used
- The [(6/6)Registration] window is displayed.

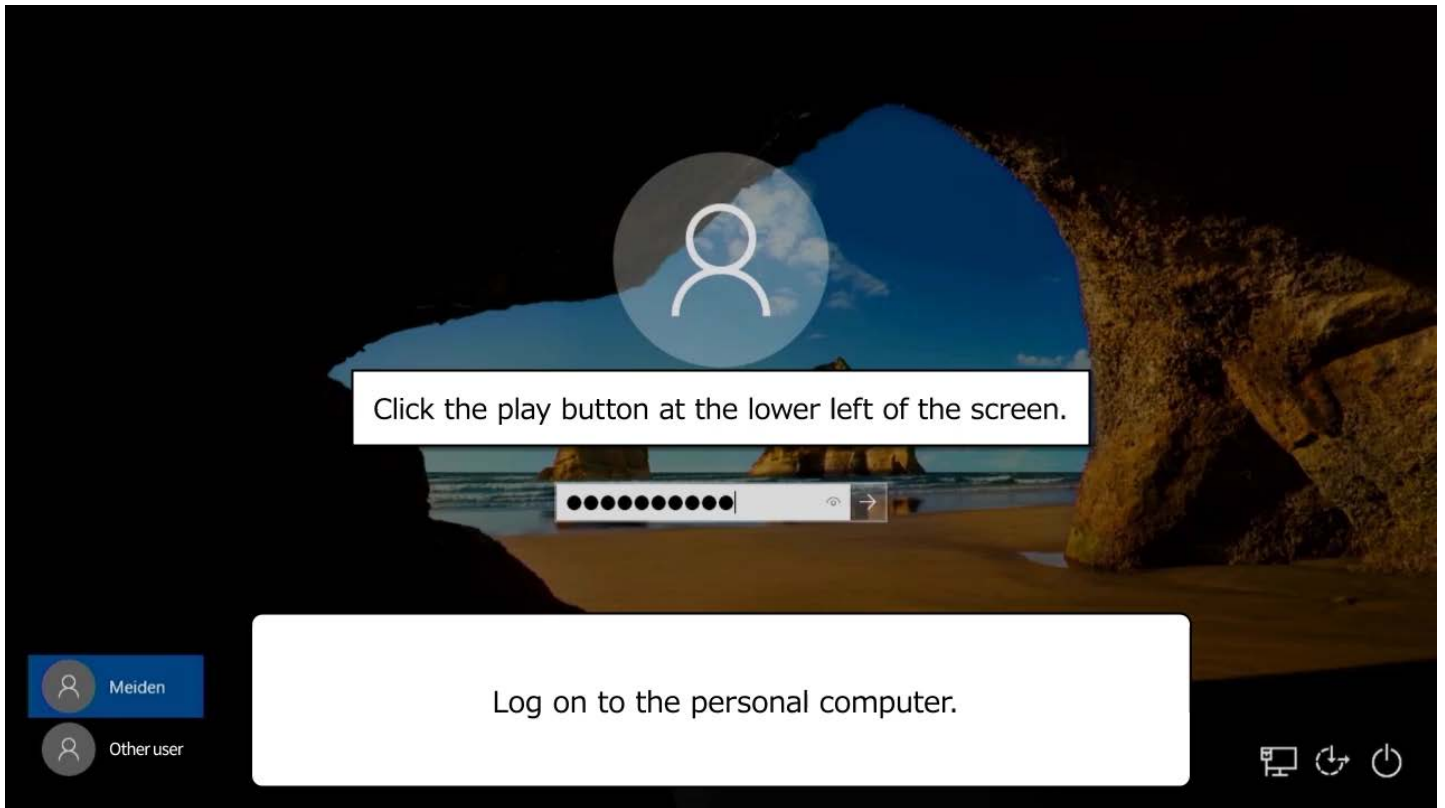
For the procedure, see the video below.



1.3.8

Updating RTX

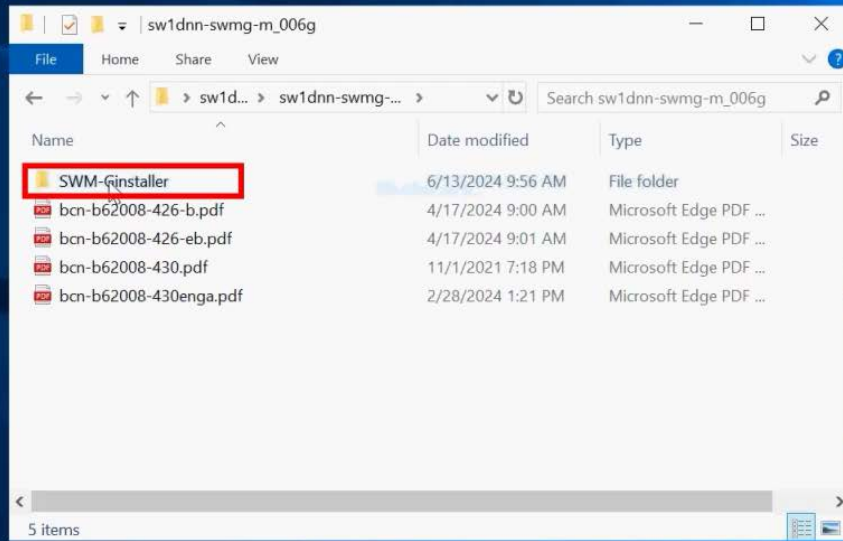
After the restart, log on to the personal computer and update RTX. In this procedure, use the unzipped download module. For the procedure, see the video below.



1.3.8

Updating RTX

After the restart, log on to the personal computer and update RTX. In this procedure, use the unzipped download module. For the procedure, see the video below.

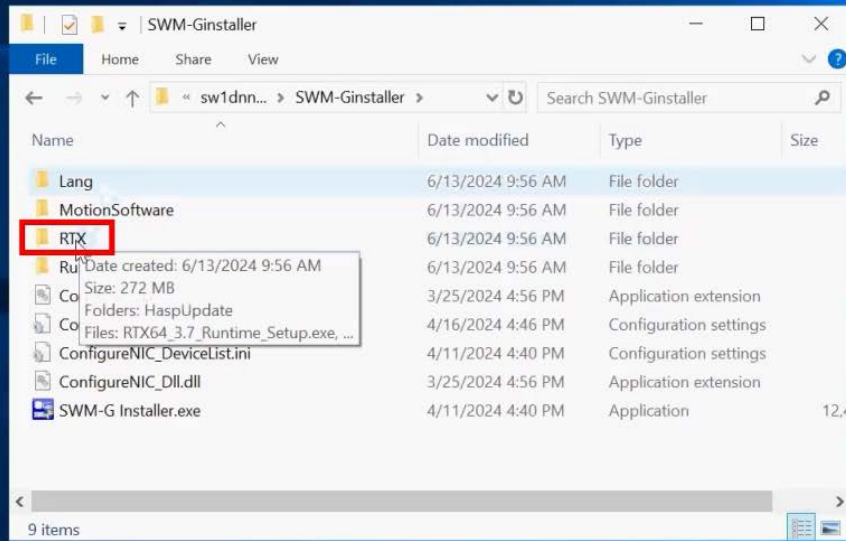


Open the "SWM-Ginstaller" folder →
"RTX" folder in the unzipped download module.

1.3.8

Updating RTX

After the restart, log on to the personal computer and update RTX. In this procedure, use the unzipped download module. For the procedure, see the video below.

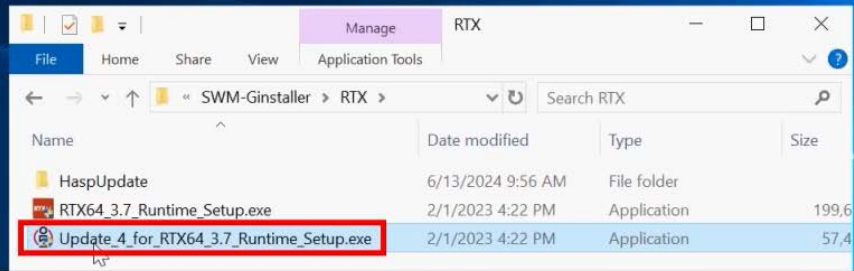


Open the "SWM-Ginstaller" folder →
"RTX" folder in the unzipped download module.

1.3.8

Updating RTX

After the restart, log on to the personal computer and update RTX. In this procedure, use the unzipped download module. For the procedure, see the video below.



Point

When the following setup file is saved in the "RTX" folder, update the file. If not, there is no need to update.

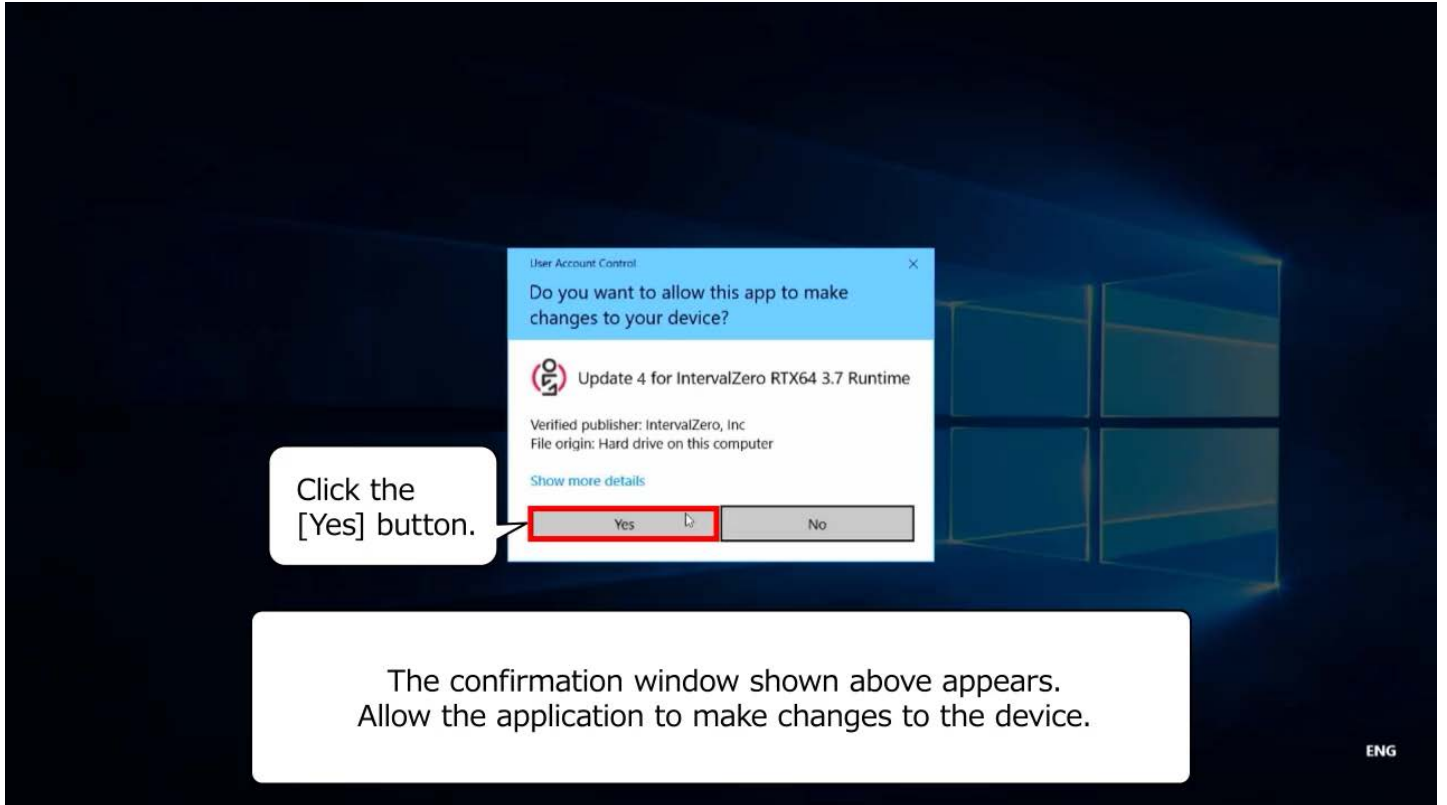
Setup file: Update_□_for_RTX64_###_Runtime_Setup.exe*

*□: Version of the RTX update module

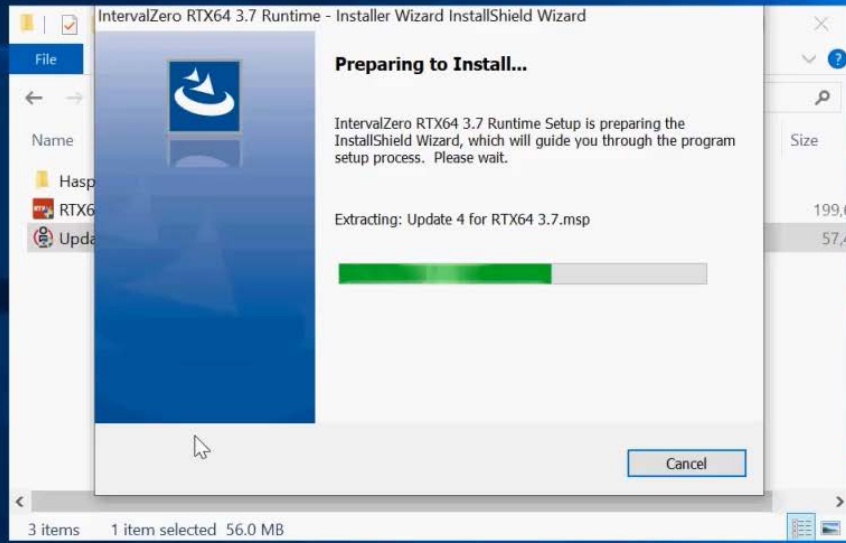
###: Version of RTX

In this video, double-click the setup file "Update_4_for_RTX64_3.7_Runtime_Setup.exe". Check the above point for the setup file.

After the restart, log on to the personal computer and update RTX. In this procedure, use the unzipped download module. For the procedure, see the video below.



After the restart, log on to the personal computer and update RTX. In this procedure, use the unzipped download module. For the procedure, see the video below.

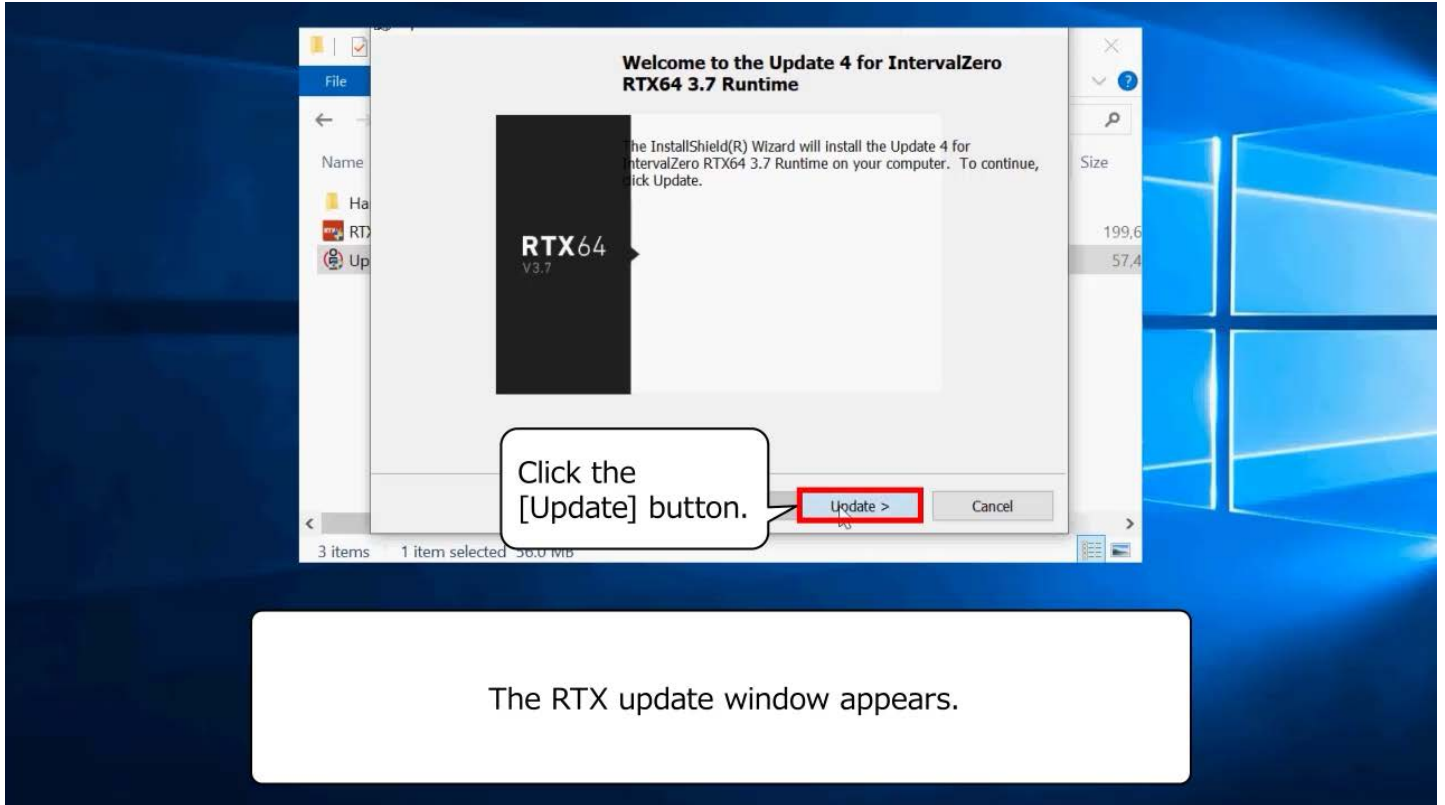


The [Preparing to Install...] window appears.

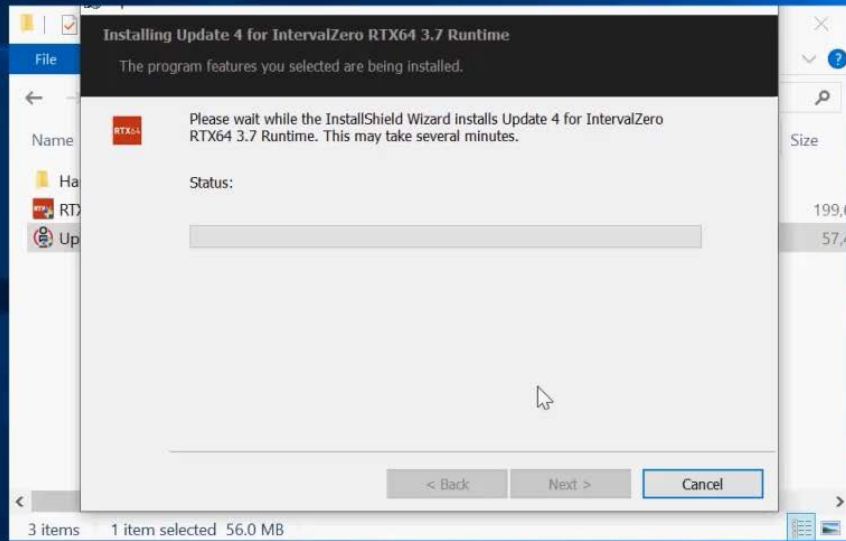
1.3.8

Updating RTX

After the restart, log on to the personal computer and update RTX. In this procedure, use the unzipped download module. For the procedure, see the video below.



After the restart, log on to the personal computer and update RTX. In this procedure, use the unzipped download module. For the procedure, see the video below.

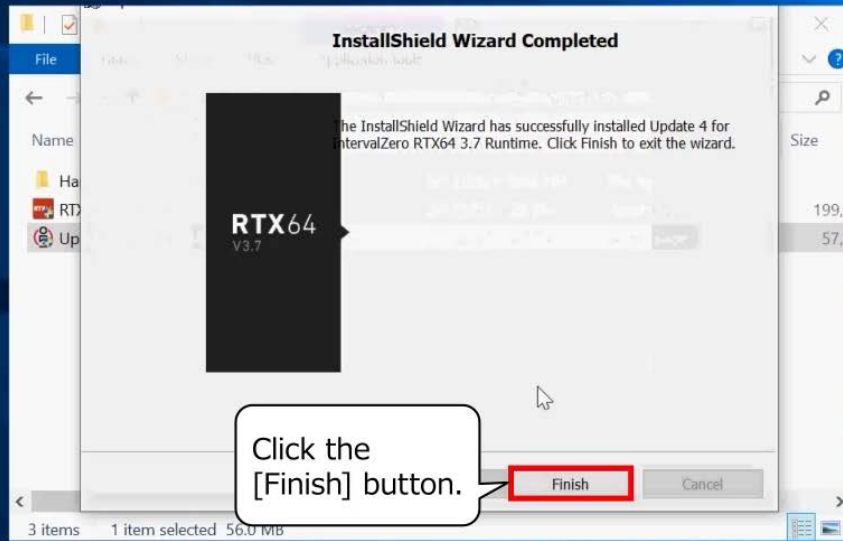


Update of RTX will be completed within a few minutes.

1.3.8

Updating RTX

After the restart, log on to the personal computer and update RTX. In this procedure, use the unzipped download module. For the procedure, see the video below.



The [InstallShield Wizard Completed] window appears.
Now you have updated RTX.

After the restart, log on to the personal computer and update RTX. In this procedure, use the unzipped download module. For the procedure, see the video below.



Go to the next page.

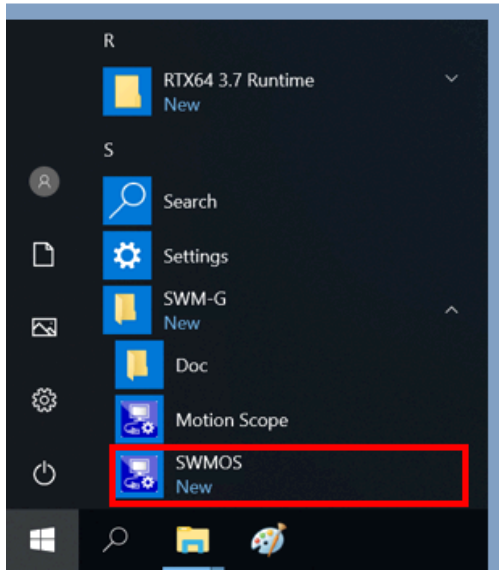
1.3.9

Checking installation

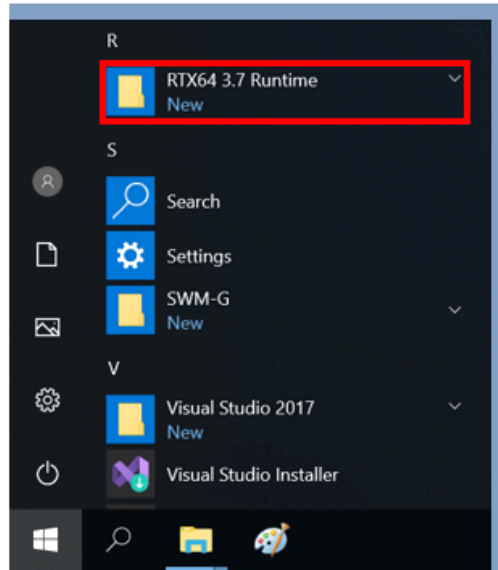
Finally, check that "SWM-G" and "RTX64 ### Runtime"* have been registered in the Windows start menu. If they are registered, the installation now has been completed.

*###: Version of RTX

[SWM-G]



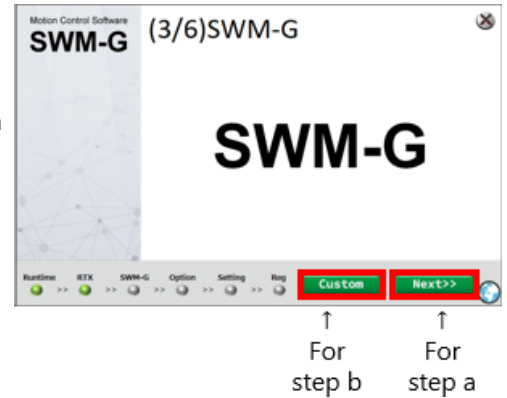
[RTX64 ### Runtime]*



■ When SWM-G related software has already been installed

When the installer is started, a step window for uninstalled software appears. Follow the installation procedure according to cases a and b below.

- The window on the right indicates that only Runtime and RTX have been installed.
- When all the processes up to the RTX setting have been completed, the installation item selection window appears at the startup of the installer.



a. Start installation from the displayed step window.

1. Click the [Next>>] button.

- Installation starts.

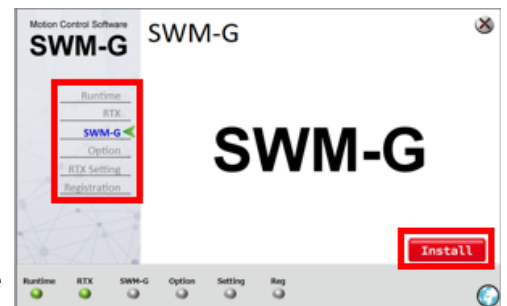
b. Select the item to be installed.

1. Click the [Custom] button.

- The installation item selection window appears.

2. Select the software to be installed from the menu on the left and click the [Install] button.

- Installation starts.

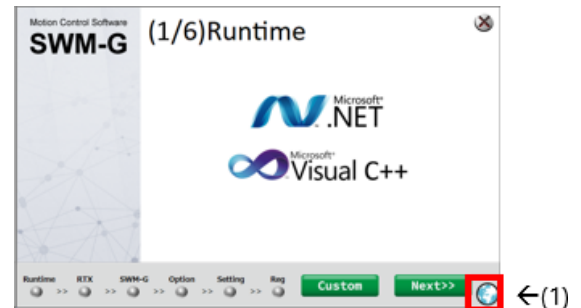


■ Switching the display language

The display language of the installer can be switched by the following procedure.

1. Click (1) at the lower right of the window.

- The [Language] window appears.



2. Select the language to be used and click the [OK] button.

- The display language is switched.

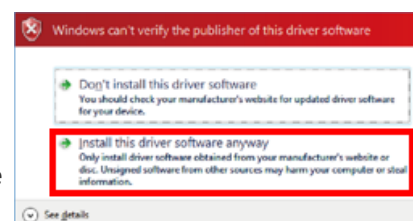


■ When "Driver Signature Enforcement" is enabled in Windows

At the setting of RTX, when "Driver Signature Enforcement" is enabled in Windows, the warning message shown on the right may be displayed.

At this time, click "Install this driver software anyway".

For the procedure for disabling the driver signature enforcement, refer to the following manual.



This section describes the errors that may occur during installation, their causes, and corrective actions.

Description	Cause	Corrective action
Installation fails.		
The installer stops during installation. Or, the installer suddenly exits during installation.	The free space on the hard disk is insufficient.	Increase the free space on the hard disk and then perform installation again.
Authentication of the USB key fails.	License authentication of Windows has not been completed.	Authenticate the USB key again after the license authentication of Windows.
	No USB key is inserted into the personal computer.	Check that a USB key is inserted into the personal computer. If a USB key has already been inserted, remove the USB key from the personal computer and insert it again.
The license authentication of SWM-G fails.	The license code is incorrect.	Check the license certificate and enter the license code again.

In this chapter, you have learned:

- Installation Procedure and Point
- Preparation for Installation
- Installation

Point

Installation Procedure and Point	To install SWM-G, perform the following three steps: downloading the download module, preparation for installation, and installation.
Preparation for Installation	Before installing SWM-G, perform the following: BIOS setting, disabling the fast startup, performing Windows Update, disabling Windows Update, and disabling Windows functions that are not supported by RTX.
Installation	To install SWM-G, perform the following five steps: installing each software (Runtime, RTX, and SWM-G), setting RTX, registering the SWM-G license, authenticating the RTX license and assigning cores, and updating RTX.

This chapter describes the basic settings of the engineering tool (SWMOS^{*}) included in Motion Control Software SWM-G.
^{*}SWMOS: SWM-G Operating Station

- 2.1 System Configuration
- 2.2 Platform Selection
- 2.3 Master Setting
- 2.4 Remote Station Setting
- 2.5 Parameter Setting
- 2.6 Single-Axis Control
- 2.7 Multi-Axis Control
- 2.8 Summary of This Chapter

In this chapter, the configuration of the target system is as follows.

As this chapter focuses on the basic settings of SWMOS, the wiring and connection of the components and the rotary switch settings of the servo amplifier are explained in the following chapters.

The IP address of each device is set to the initial value.

Target device	IP address
Personal computer (Master)	192.168.3.253
MR-J5-G	192.168.3.1
MR-J5W3-G	192.168.3.2



[Point]

When using a multi-axis servo amplifier, the setting for disabling the axis cannot be used.

Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.

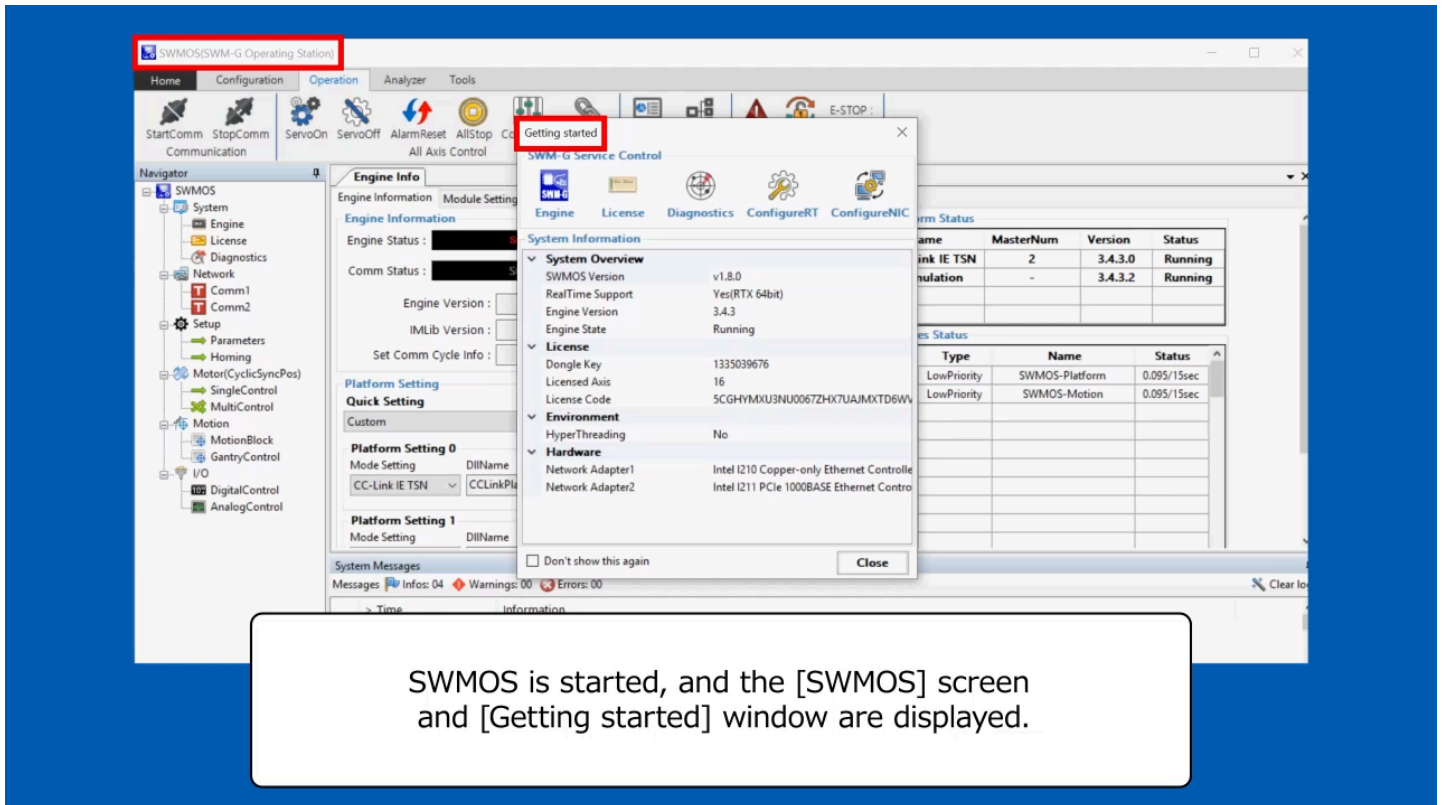


Click the play button at the lower left of the screen.

Select [SWM-G] → [SWMOS] from the Windows start menu.

Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.



Start SWMOS and set the CC-Link IE TSN platform.

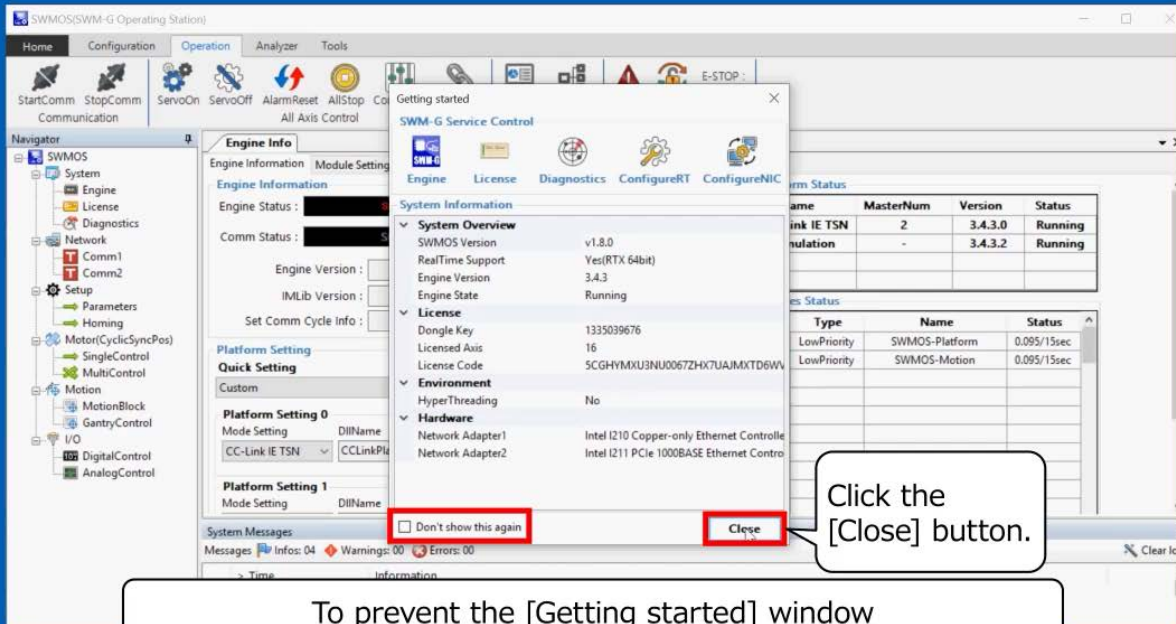
This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.

Click the [Close] button.

On the [Getting started] window, the system version and license information can be checked. Click the [Close] button to close the [Getting started] window.

Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.



To prevent the [Getting started] window from being displayed on the subsequent startup, select [Don't show this again] and click the [Close] button on the [Getting started] window.

Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.

The screenshot displays the SWMOS(SWM-G Operating Station) software interface. The 'Engine' option in the Navigator is highlighted with a red box. The main window shows 'Engine Info' with 'Engine Status' as 'Stopped' and 'Comm Status' as 'Stopped'. The 'Platform Status' table shows 'CC-Link IE TSN' with MasterNum 1, Version 3.4.3.0, and Status Running. The 'Platform Setting' section shows 'Mode Setting' as 'CC-Link IE TSN' and 'DillName' as 'CCLinkPlatform'.

Name	MasterNum	Version	Status
CC-Link IE TSN	1	3.4.3.0	Running

ID	Type	Name	Status
0	LowPriority	SWMOS-Platform	0.048/15Sec
1	LowPriority	SWMOS-Motion	0.048/15Sec

From the navigation window on the [SWMOS] screen, select [SWMOS] → [System] → [Engine].

Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.

The screenshot shows the SWMOS(SWM-G Operating Station) software interface. The 'Engine Info' tab is selected and highlighted with a red box. The interface displays various control buttons and system information. The 'Engine Status' is 'Stopped', and the 'Comm Status' is 'Stopped'. The 'Engine Version' is 3.4.3.2, 'Licensed Axes Num' is 16, 'IMLib Version' is 3.1, and 'Loaded Modules Count' is 7. The 'Set Comm Cycle Info' is 'CC-Link IE TSN CycleTime: 1ms'. There are sections for 'Platform Setting', 'Quick Setting', and 'Common Setting'. A 'System Messages' window at the bottom shows logs for 2024-06-13 16:21:01.

Name	MasterNum	Version	Status
CC-Link IE TSN	1	3.4.3.0	Running

ID	Type	Name	Status
0	LowPriority	SWMOS-Platform	0.049/15sec
1	LowPriority	SWMOS-Motion	0.049/15sec

The engine window appears.
Select the [Engine Information] tab.

Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.

The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The 'Engine Info' window is open, showing 'Engine Status' as 'Stopped' and 'Comm Status' as 'Stopped'. The 'Platform Setting' section is highlighted with a red box, showing 'Mode Setting' as 'CC-Link IE TSN', 'DllName' as 'CCLinkPlatform', 'Enable' as 'Enable', and 'NumOfMaster' as '1'. The 'Platform Status' table shows 'CC-Link IE TSN' with MasterNum 1 and Version 3.4.3.0. The 'Devices Status' table shows two entries: 'SWMOS-Platform' and 'SWMOS-Motion'.

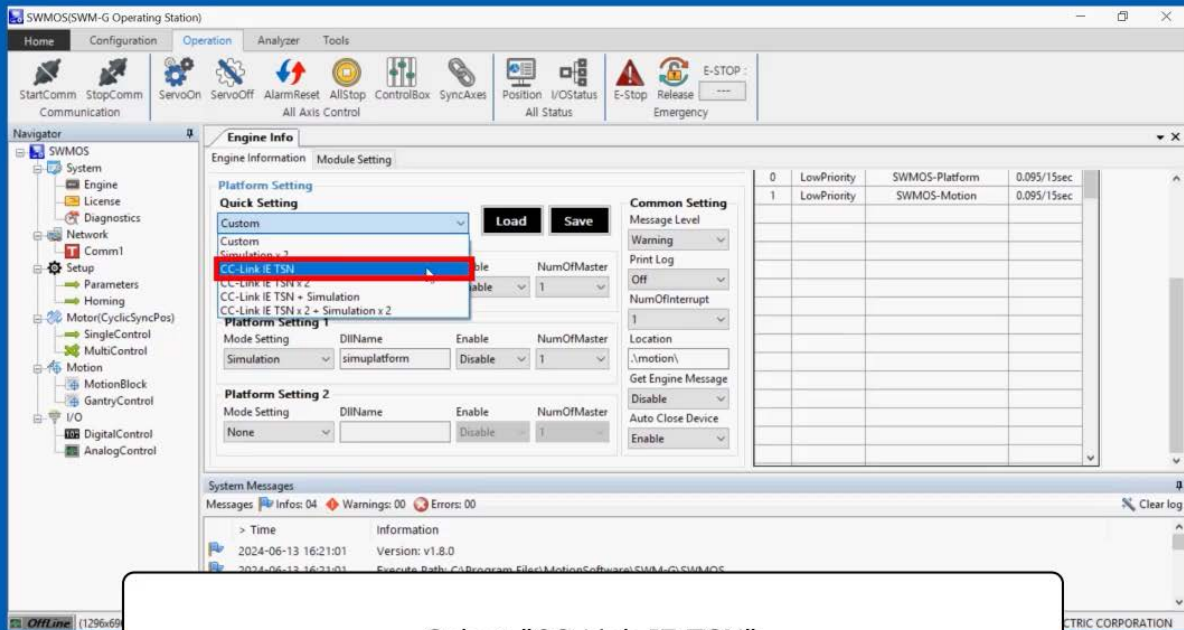
Name	MasterNum	Version	Status
CC-Link IE TSN	1	3.4.3.0	Running

ID	Type	Name	Status
0	LowPriority	SWMOS-Platform	0.048/15Sec
1	LowPriority	SWMOS-Motion	0.048/15Sec

Check the platform settings in [Platform Setting].

Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.



Select "CC-Link IE TSN" from the pull-down list of [Quick Setting].

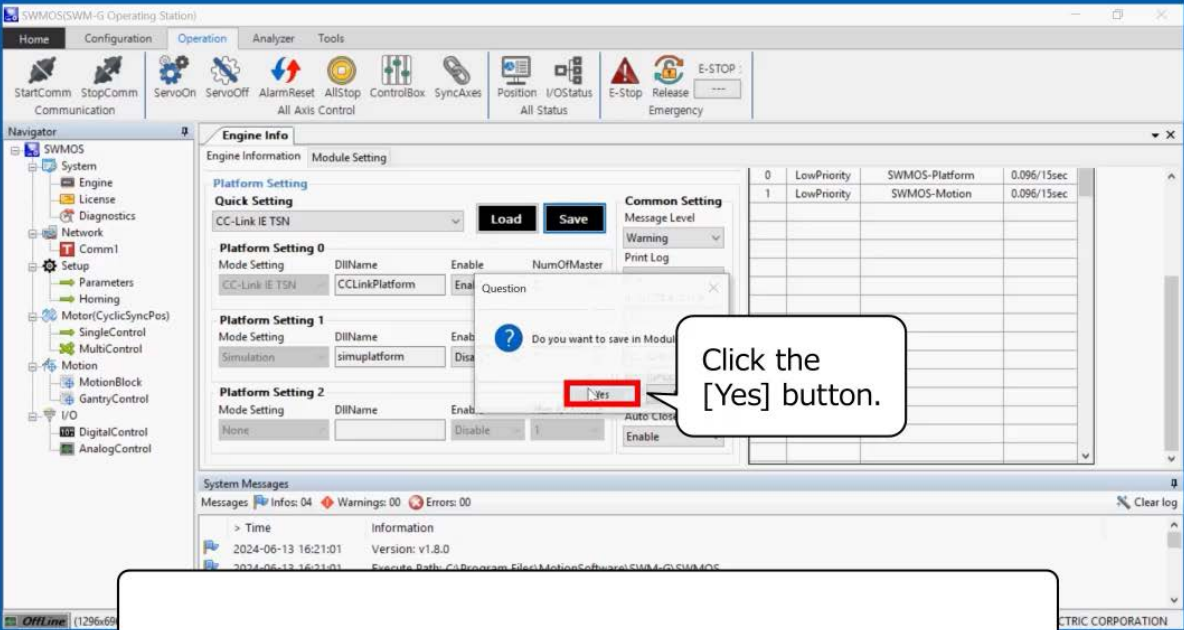
Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.

The screenshot displays the SWMOS(SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and features a menu bar with "Home", "Configuration", "Operation", "Analyzer", and "Tools". Below the menu bar is a toolbar with various icons for communication, control, and status. The left sidebar shows a "Navigator" tree with categories like System, Engine, License, Diagnostics, Network, Comm1, Setup, Parameters, Homing, Motor(CyclicSyncPos), SingleControl, MultiControl, Motion, MotionBlock, GantryControl, I/O, DigitalControl, and AnalogControl. The main area is divided into "Engine Info" and "Module Setting". Under "Module Setting", the "Platform Setting" section is active, showing a "Quick Setting" dropdown menu set to "CC-Link IE TSN". Below this are three "Platform Setting" sections (0, 1, and 2). "Platform Setting 0" is selected, showing "Mode Setting" as "CC-Link IE TSN", "DIIName" as "CCLinkPlatform", "Enable" as "Enable", and "NumOfMaster" as "1". The "Save" button is highlighted with a red box. A white callout box at the bottom of the screenshot contains the text "Click the [Save] button." The "System Messages" panel at the bottom shows "Messages: 04", "Infos: 04", "Warnings: 00", and "Errors: 00".

Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window shows the 'Engine Info' tab, specifically the 'Module Setting' section. Under 'Platform Setting', the 'Quick Setting' is set to 'CC-Link IE TSN'. Below this, there are three 'Platform Setting' entries (0, 1, and 2) with columns for 'Mode Setting', 'DllName', 'Enable', and 'NumOfMaster'. A dialog box is open in the center, asking 'Do you want to save in Module.ini?' with a 'Yes' button highlighted in red. A callout bubble points to the 'Yes' button with the text 'Click the [Yes] button.' Below the screenshot, a text box states 'A message about saving Module.ini appears.'

Mode Setting	DllName	Enable	NumOfMaster
CC-Link IE TSN	CCLinkPlatform	Enal	Question
Simulation	simuplatform	Disa	
None		Disable	

System Messages

Messages: Infos: 04 Warnings: 00 Errors: 00

2024-06-13 16:21:01 Version: v1.8.0

2024-06-13 16:21:01 File: C:\Program Files\MotionSoftware\SWM-G\SWMOS

Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.

Click the [Yes] button.

A confirmation message to restart the SWM-G engine appears.

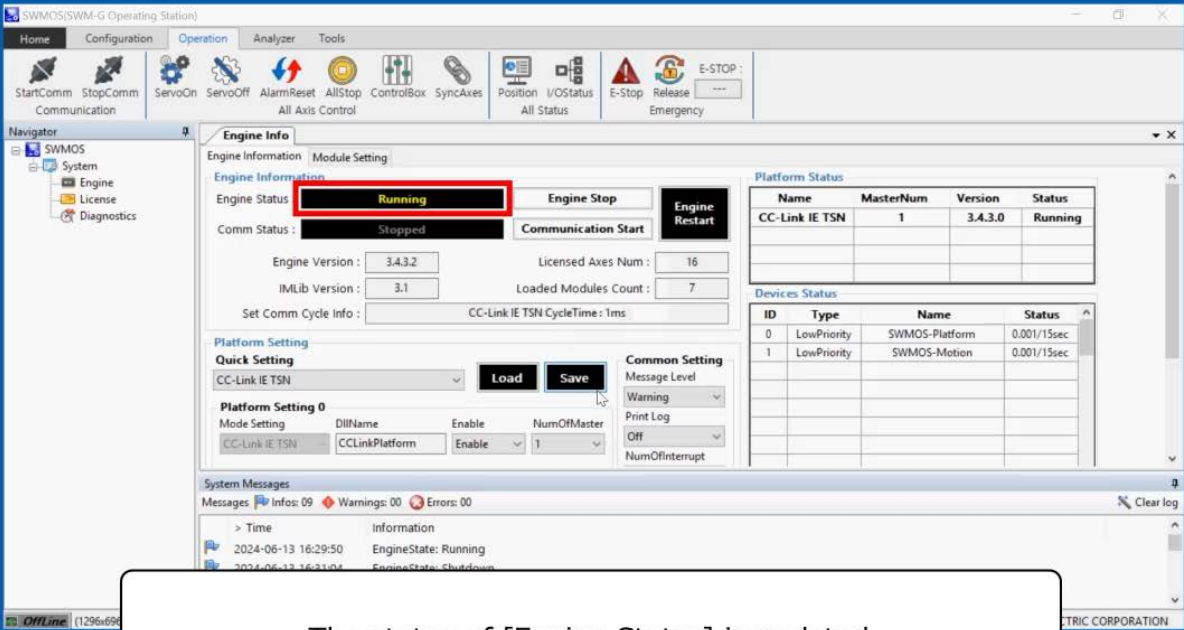
Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.

The engine is restarted.

Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) interface. The main window is titled "SWMOS(SWM-G Operating Station)" and features a menu bar with "Home", "Configuration", "Operation", "Analyzer", and "Tools". The "Operation" menu is active, showing various control buttons like "StartComm", "StopComm", "ServoOn", "ServoOff", "AlarmReset", "AllStop", "ControlBox", "SyncAxes", "Position", "I/OStatus", "E-Stop", "Release", and "Emergency".

The "Engine Info" section is visible, showing the "Engine Status" as "Running" (highlighted with a red box). Other status indicators include "Comm Status: Stopped", "Engine Version: 3.4.3.2", "Licensed Axes Num: 16", "IMLib Version: 3.1", and "Loaded Modules Count: 7". The "Platform Setting" section shows "CC-Link IE TSN" selected in the "Quick Setting" dropdown, with "Load" and "Save" buttons. The "Platform Setting 0" section shows "Mode Setting" as "CC-Link IE TSN", "DllName" as "CCLinkPlatform", "Enable" as "Enable", and "NumOfMaster" as "1".

The "Platform Status" table shows the following data:

Name	MasterNum	Version	Status
CC-Link IE TSN	1	3.4.3.0	Running

The "Devices Status" table shows the following data:

ID	Type	Name	Status
0	LowPriority	SWMOS-Platform	0.001/15sec
1	LowPriority	SWMOS-Motion	0.001/15sec

The "System Messages" section shows a list of messages, including "EngineState: Running" and "EngineState: Shutdown".

The callout box contains the following text:

The status of [Engine Status] is updated in the order of "Stopped" → "Preparing" → "Running".

Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.

The screenshot displays the SWMOS (SWM-G Operating Station) interface. The 'Platform Status' table is highlighted with a red box. The table contains the following data:

Name	MasterNum	Version	Status
CC-Link IE TSN	1	3.4.3.0	Running

Below the 'Platform Status' table, the 'Devices Status' table is visible, showing the following data:

ID	Type	Name	Status
0	LowPriority	SWMOS-Platform	0.001/15sec
1	LowPriority	SWMOS-Motion	0.001/15sec

The 'Engine Info' section shows the following details:

- Engine Status: Running
- Comm Status: Stopped
- Engine Version: 3.4.3.2
- IMLib Version: 3.1
- Licensed Axes Num: 16
- Loaded Modules Count: 7
- Set Comm Cycle Info: CC-Link IE TSN CycleTime: 1ms

The 'Platform Setting' section shows the 'Quick Setting' dropdown set to 'CC-Link IE TSN' and the 'Save' button highlighted. The 'Platform Setting 0' section shows the 'Mode Setting' dropdown set to 'CC-Link IE TSN' and the 'Enable' checkbox checked.

The 'System Messages' section shows the following messages:

- 2024-06-13 16:29:50 EngineState: Running
- 2024-06-13 16:31:04 EngineState: Shutdown

The network information is displayed in [Platform Status].

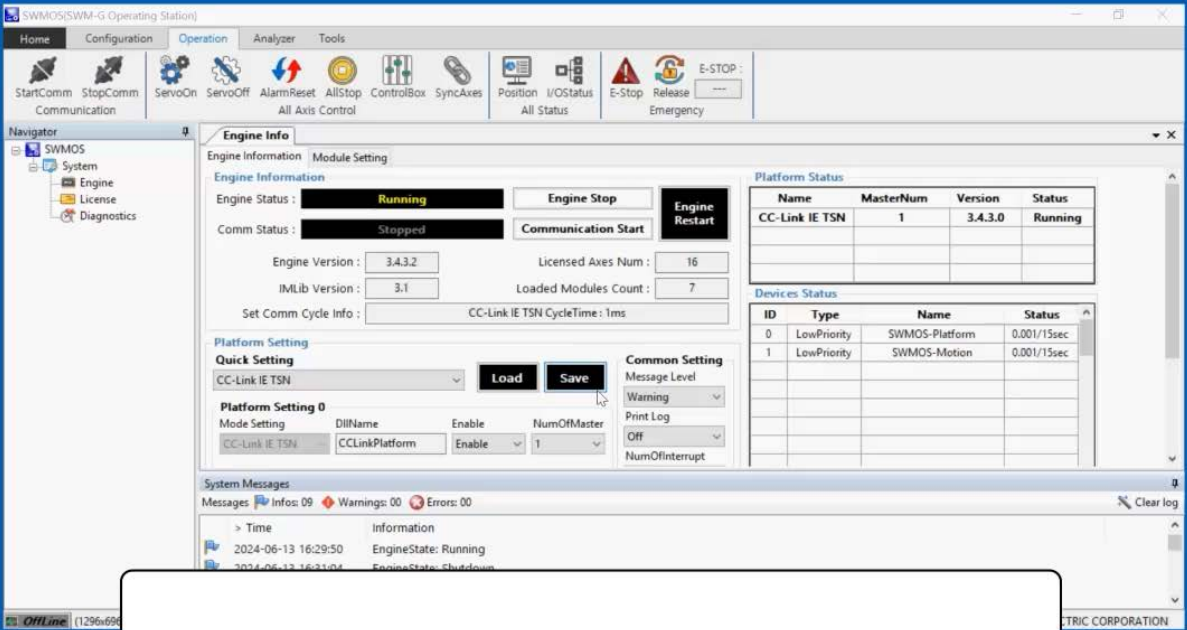
Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.

Now you have completed the preparation for the communication with the CC-Link IE TSN remote station. Keep the [SWMOS] screen open because closing the [SWMOS] screen stops the engine.

Start SWMOS and set the CC-Link IE TSN platform.

This setting enables the communication with the CC-Link IE TSN remote station. For the procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and features a menu bar with "Home", "Configuration", "Operation", "Analyzer", and "Tools". Below the menu bar is a toolbar with various icons for system control, including "StartComm", "StopComm", "ServoOn", "ServoOff", "AlarmReset", "AllStop", "ControlBox", "SyncAxes", "Position", "I/OStatus", "E-Stop", "Release", and "Emergency".

The "Configuration" tab is active, showing the "Engine Info" section. The "Engine Information" sub-section displays the following data:

- Engine Status: **Running** (with "Engine Stop" and "Engine Restart" buttons)
- Comm Status: **Stopped** (with "Communication Start" button)
- Engine Version: 3.4.3.2
- Licensed Axes Num: 16
- IMLib Version: 3.1
- Loaded Modules Count: 7
- Set Comm Cycle Info: CC-Link IE TSN CycleTime: 1ms

The "Platform Setting" section is also visible, showing "Quick Setting" for "CC-Link IE TSN" with "Load" and "Save" buttons. The "Platform Setting 0" sub-section includes a table for "Mode Setting":

Mode Setting	DllName	Enable	NumOfMaster
CC-Link IE TSN	CCLinkPlatform	Enable	1

Additional sections include "Platform Status" and "Devices Status". The "Platform Status" table is as follows:

Name	MasterNum	Version	Status
CC-Link IE TSN	1	3.4.3.0	Running

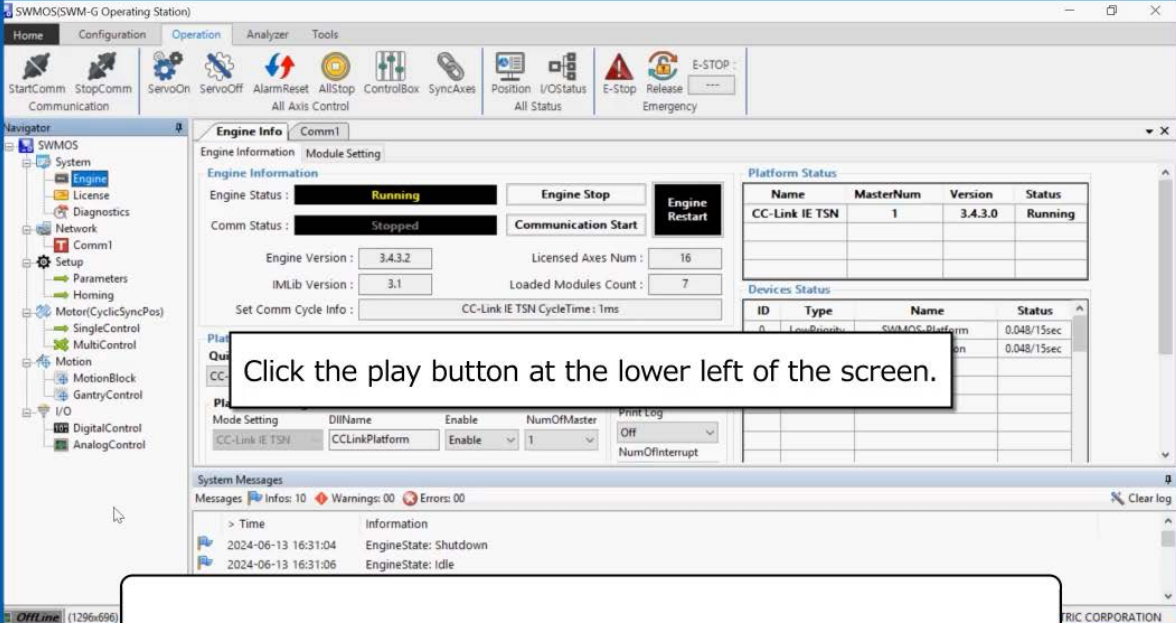
The "Devices Status" table is as follows:

ID	Type	Name	Status
0	LowPriority	SWMOS-Platform	0.001/15sec
1	LowPriority	SWMOS-Motion	0.001/15sec

The "System Messages" section at the bottom shows a log of messages, including "EngineState: Running" and "EngineState: Shutdown".

A white callout box with a black border is overlaid on the bottom center of the screenshot, containing the text: "Go to the next page."

Then, configure the master setting. For the procedure, see the video below.



Click the play button at the lower left of the screen.

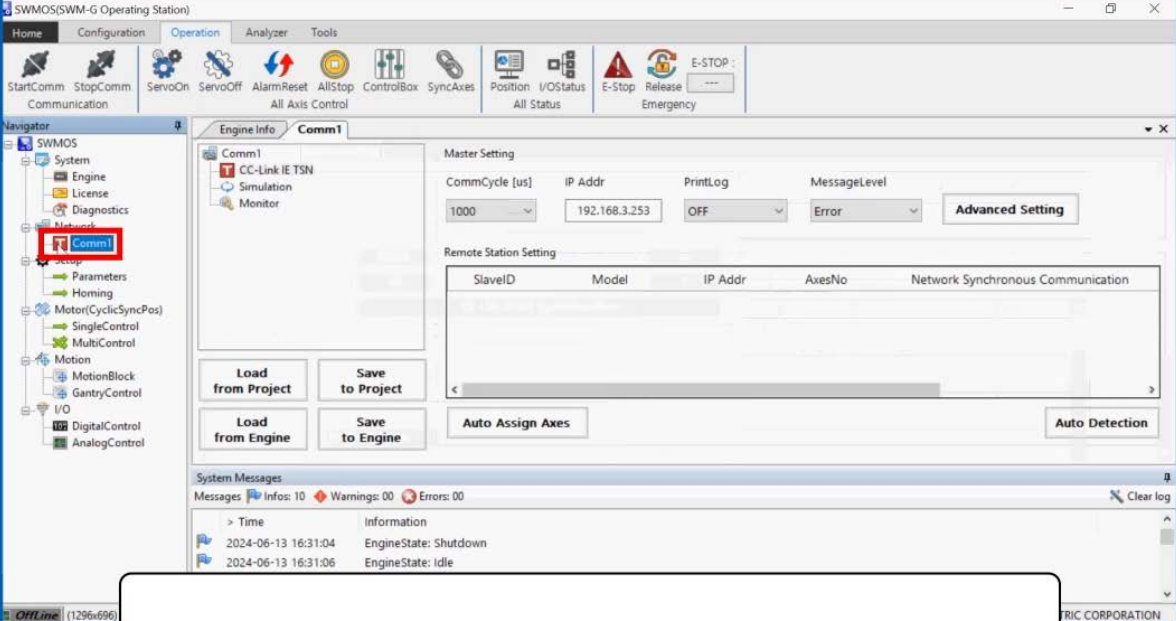
From the navigation window on the [SWMOS] screen, select [SWMOS] → [Network] → [Comm1].

Name	MasterNum	Version	Status
CC-Link IE TSN	1	3.4.3.0	Running

ID	Type	Name	Status
0	LowPriority	SWMOS Platform	0.048/15sec
			0.048/15sec

Time	Information
2024-06-13 16:31:04	EngineState: Shutdown
2024-06-13 16:31:06	EngineState: Idle

Then, configure the master setting. For the procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The Navigator window on the left shows the project structure, with the 'Comm1' folder under the 'Network' category highlighted. The main configuration area is titled 'Master Setting' and includes the following fields:

- CommCycle [us]: 1000
- IP Addr: 192.168.3.253
- PrintLog: OFF
- MessageLevel: Error

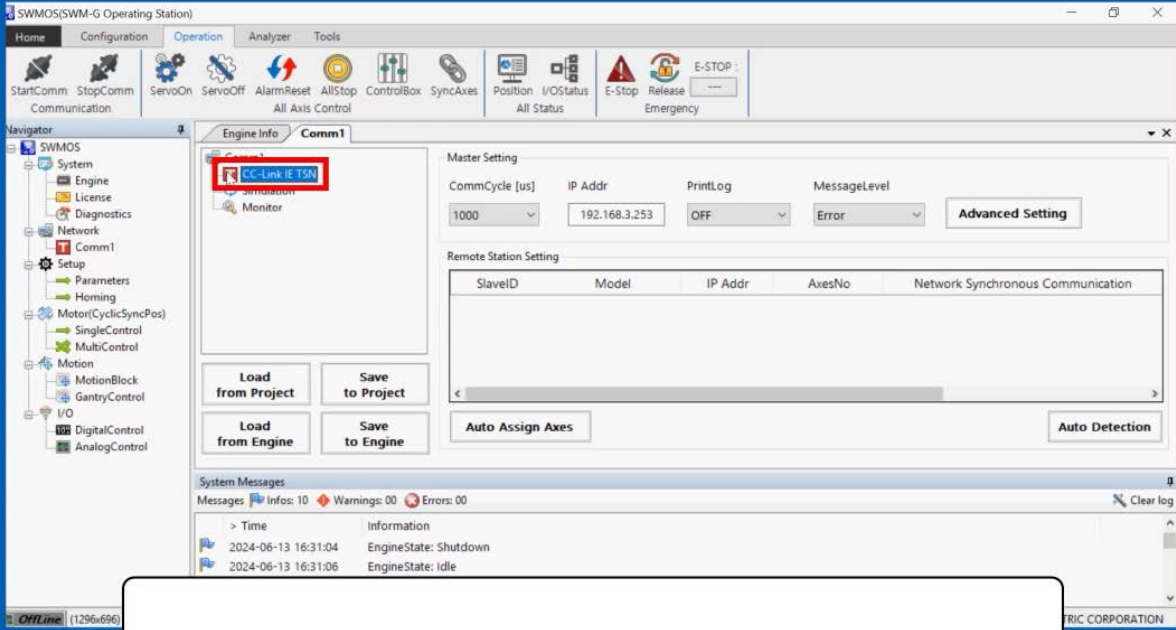
Below these fields is an 'Advanced Setting' button. The 'Remote Station Setting' section contains a table with the following columns: SlaveID, Model, IP Addr, AxesNo, and Network Synchronous Communication. The table is currently empty. At the bottom of the configuration area are buttons for 'Load from Project', 'Save to Project', 'Load from Engine', 'Save to Engine', 'Auto Assign Axes', and 'Auto Detection'.

The System Messages window at the bottom shows the following log entries:

Time	Information
2024-06-13 16:31:04	EngineState: Shutdown
2024-06-13 16:31:06	EngineState: Idle

From the navigation window on the [SWMOS] screen, select [SWMOS] → [Network] → [Comm1].

Then, configure the master setting. For the procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The Navigator pane on the left shows the 'Comm1' folder expanded, with 'CC-Link IE TSN' selected and highlighted by a red box. The main window shows the 'Master Setting' configuration page for 'Comm1'. The 'Master Setting' section includes the following fields:

CommCycle [us]	IP Addr	PrintLog	MessageLevel
1000	192.168.3.253	OFF	Error

Below these fields is an 'Advanced Setting' button. The 'Remote Station Setting' section contains an empty table with the following columns:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
---------	-------	---------	--------	-----------------------------------

At the bottom of the Remote Station Setting section are 'Auto Assign Axes' and 'Auto Detection' buttons. The 'System Messages' pane at the bottom shows two information messages:

Time	Information
2024-06-13 16:31:04	EngineState: Shutdown
2024-06-13 16:31:06	EngineState: Idle

A white callout box at the bottom of the screenshot contains the text: "Select [CC-Link IE TSN]."

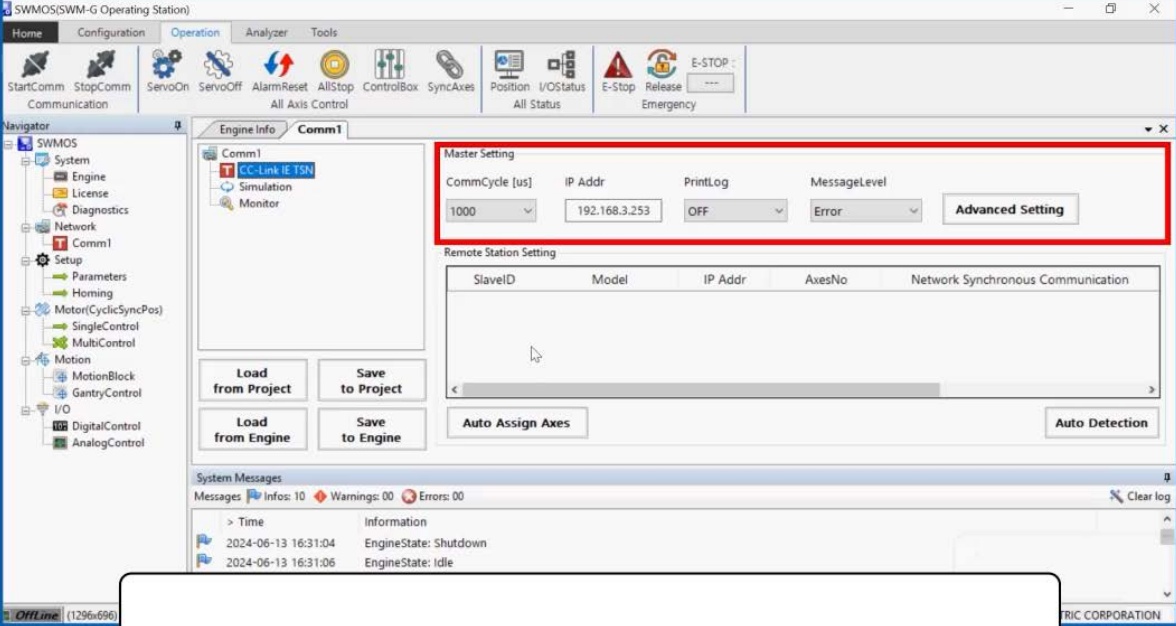
Then, configure the master setting. For the procedure, see the video below.

Master setting

Remote station setting

[Master Setting] and [Slave Setting] are displayed.

Then, configure the master setting. For the procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and features a menu bar with "Home", "Configuration", "Operation", "Analyzer", and "Tools". Below the menu bar is a toolbar with various icons for system control, including "StartComm", "StopComm", "ServoOn", "ServoOff", "AlarmReset", "AllStop", "ControlBox", "SyncAxes", "Position", "I/OStatus", "E-Stop", "Release", and "Emergency".

The left sidebar contains a "Navigator" tree with categories like "System", "Engine", "License", "Diagnostics", "Network", "Setup", "Parameters", "Homing", "Motor(CyclicSyncPos)", "SingleControl", "MultiControl", "Motion", "MotionBlock", "GantryControl", "I/O", "DigitalControl", and "AnalogControl".

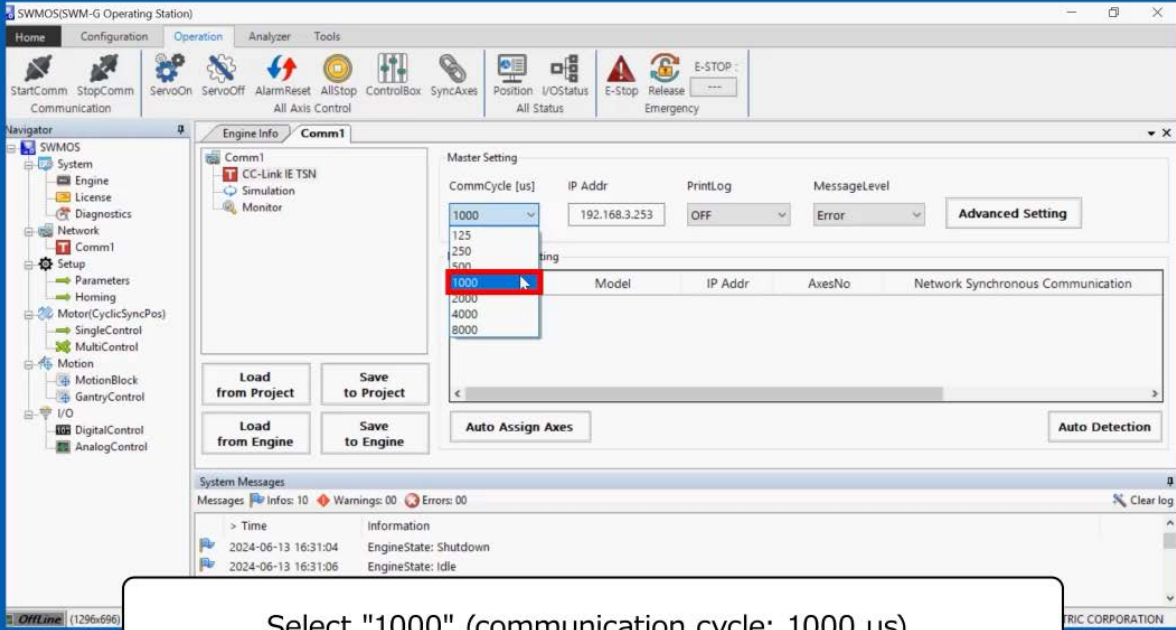
The main workspace is divided into several sections:

- Engine Info:** Shows "Comm1" selected.
- Master Setting:** A red-bordered window containing:
 - CommCycle [us]: 1000
 - IP Addr: 192.168.3.253
 - PrintLog: OFF
 - MessageLevel: Error
 - Advanced Setting button
- Remote Station Setting:** A table with columns: SlaveID, Model, IP Addr, AxesNo, Network Synchronous Communication. Below the table are "Auto Assign Axes" and "Auto Detection" buttons.
- System Messages:** Shows "Messages" with "Infos: 10", "Warnings: 00", and "Errors: 00". A log entry shows "2024-06-13 16:31:04 EngineState: Shutdown" and "2024-06-13 16:31:06 EngineState: Idle".

At the bottom of the interface, there is a status bar with "Online (1296x696)" and "TRIC CORPORATION".

Configure the settings of [Master Setting].

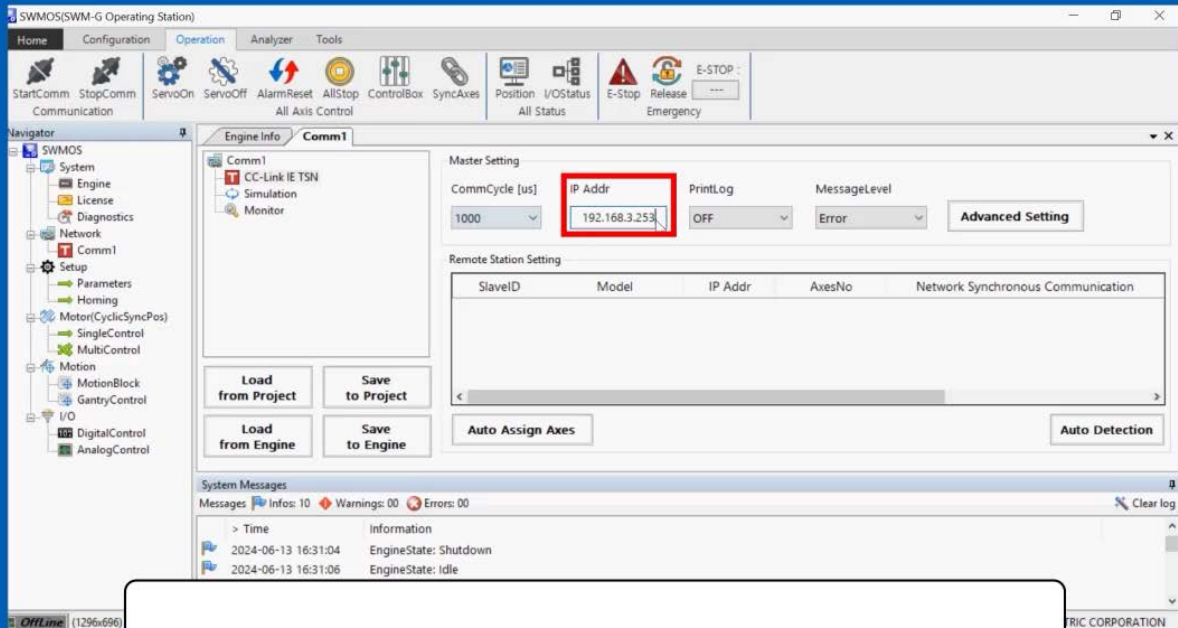
Then, configure the master setting. For the procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and shows the "Master Setting" configuration for "Comm1". The "CommCycle [μs]" dropdown menu is open, and "1000" is selected. The "IP Addr" is set to "192.168.3.253", "PrintLog" is "OFF", and "MessageLevel" is "Error". The "Advanced Setting" button is visible. Below the settings, there is a table for "Network Synchronous Communication" with columns for "Model", "IP Addr", "AxesNo", and "Network Synchronous Communication". The "System Messages" panel at the bottom shows two information messages from 2024-06-13 16:31:04 and 2024-06-13 16:31:06, both indicating "EngineState: Shutdown" and "EngineState: Idle".

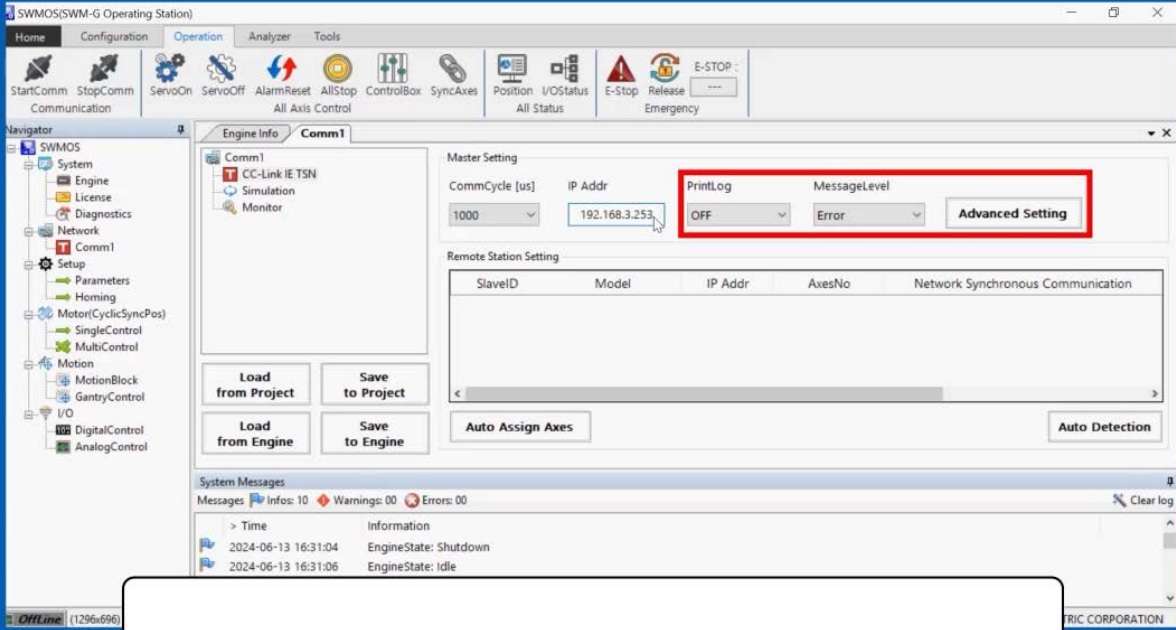
Select "1000" (communication cycle: 1000 μ s)
from the pull-down list of [CommCycle] (communication cycle).
(In this description, the default value is used as the setting value.)

Then, configure the master setting. For the procedure, see the video below.



Enter "192.168.3.253" in [IP Addr] (IP address).
(In this description, the default value is used as the setting value.)

Then, configure the master setting. For the procedure, see the video below.

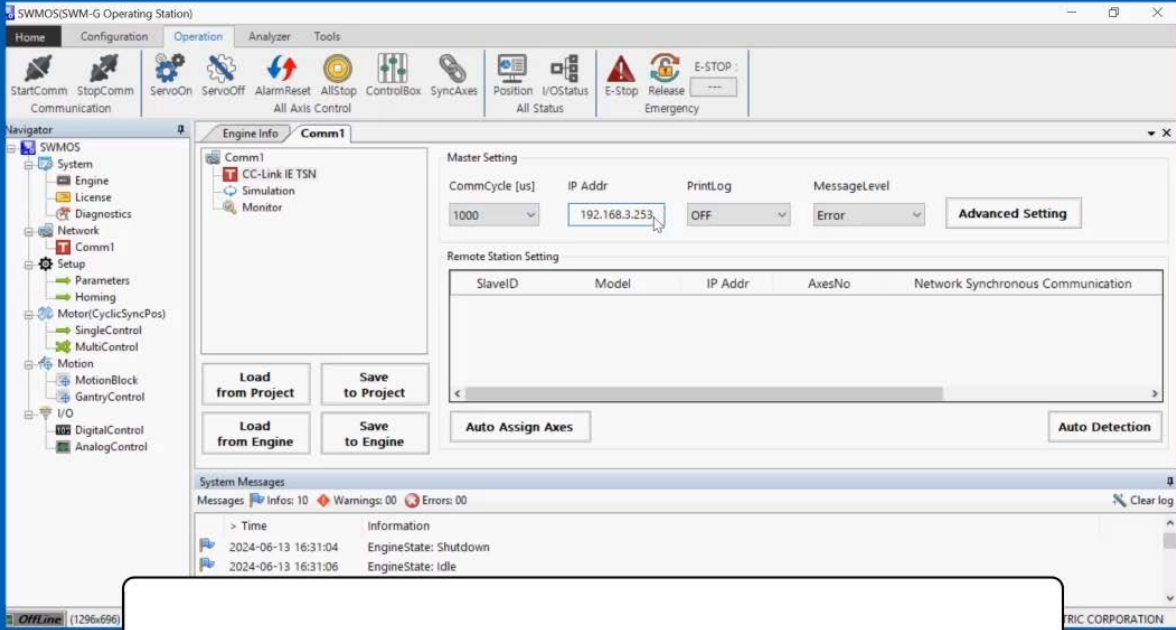


The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and shows the "Master Setting" configuration for "Comm1". The "PrintLog" and "MessageLevel" settings are highlighted with a red box. The "PrintLog" is set to "OFF" and the "MessageLevel" is set to "Error". An "Advanced Setting" button is also visible. The "Remote Station Setting" table is empty. The "System Messages" panel at the bottom shows two messages from 2024-06-13 16:31:04 and 2024-06-13 16:31:06, both indicating "EngineState: Shutdown" and "EngineState: Idle".

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
---------	-------	---------	--------	-----------------------------------

In this description, the default values are used for other settings as well.

Then, configure the master setting. For the procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and features a "Configuration" tab. The "Engine Info" section is selected, showing the "Comm1" configuration. The "Master Setting" section is active, displaying the following parameters:

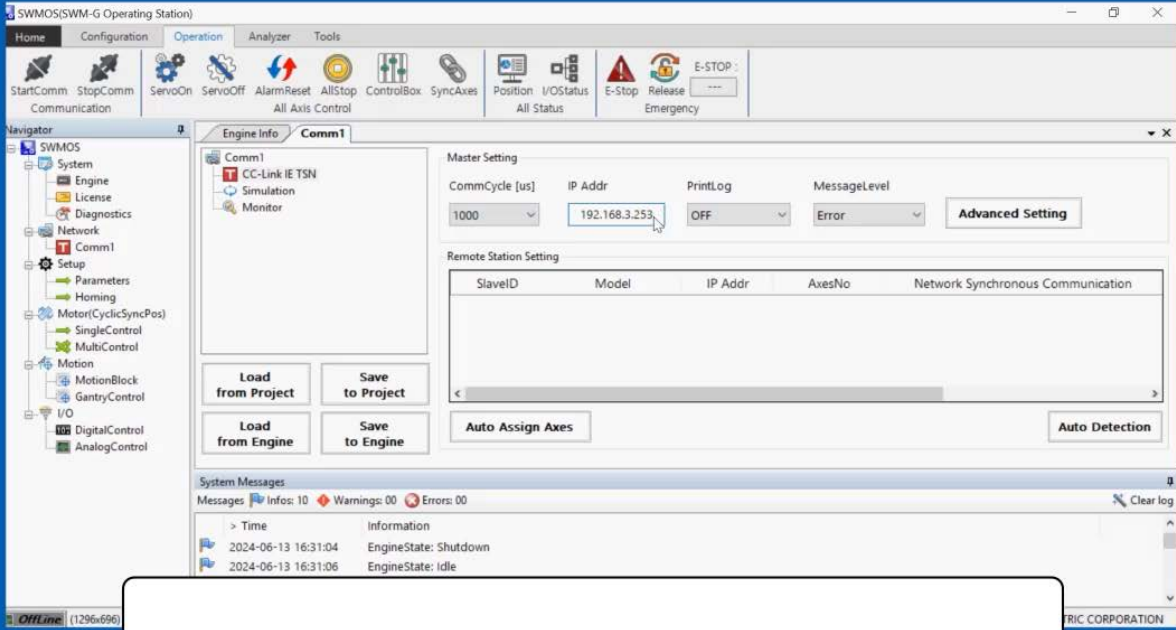
Parameter	Value
CommCycle [us]	1000
IP Addr	192.168.3.253
PrintLog	OFF
MessageLevel	Error

Below the Master Setting section is the "Remote Station Setting" table, which is currently empty. The "System Messages" panel at the bottom shows a log of messages, including:

Time	Information
2024-06-13 16:31:04	EngineState: Shutdown
2024-06-13 16:31:06	EngineState: Idle

A white callout box at the bottom of the screenshot contains the text: "Now you have completed the master settings."

Then, configure the master setting. For the procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and features a top toolbar with various control buttons such as StartComm, StopComm, ServoOn, ServoOff, AlarmReset, AllStop, ControlBox, SyncAxes, Position, I/OStatus, E-Stop, Release, and Emergency. The Navigator on the left shows a tree view of the system configuration, including System, Engine, License, Diagnostics, Network, Comm1, Setup, Parameters, Homing, Motor(CyclicSyncPos), SingleControl, MultiControl, Motion, MotionBlock, GantryControl, I/O, DigitalControl, and AnalogControl. The main configuration area is divided into several sections: "Master Setting" with fields for CommCycle [us] (1000), IP Addr (192.168.3.253), PrintLog (OFF), and MessageLevel (Error); "Remote Station Setting" with a table for SlaveID, Model, IP Addr, AxesNo, and Network Synchronous Communication; and "System Messages" showing a log of messages, including EngineState: Shutdown and EngineState: Idle. A white callout box at the bottom center of the screenshot contains the text "Go to the next page."

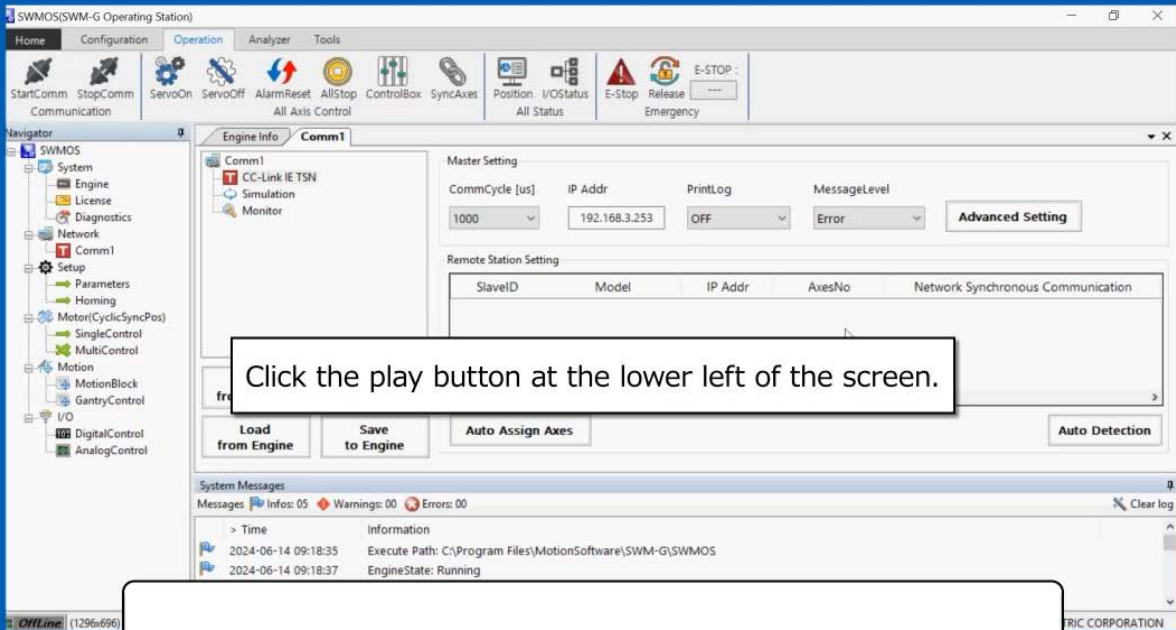
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



Click the play button at the lower left of the screen.

Next, configure the settings of [Slave Setting].

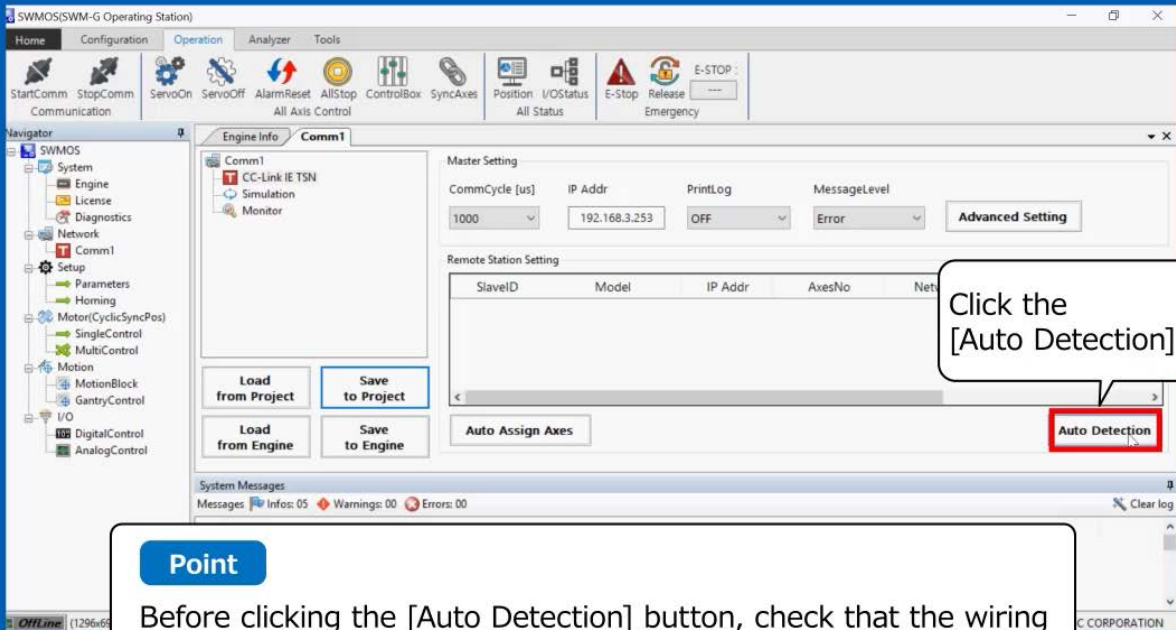
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



The screenshot displays the SWMOS(SWM-G Operating Station) software interface. The main window is titled 'SWMOS(SWM-G Operating Station)' and features a menu bar with 'Home', 'Configuration', 'Operation', 'Analyzer', and 'Tools'. Below the menu bar is a toolbar with various icons for system control, including 'StartComm', 'StopComm', 'ServoOn', 'ServoOff', 'AlarmReset', 'AllStop', 'ControlBox', 'SyncAxes', 'Position', 'I/OStatus', 'E-stop', 'Release', and 'Emergency'. The 'Configuration' tab is active, showing a 'Navigator' on the left with a tree view of system components like 'System', 'Engine', 'License', 'Diagnostics', 'Network', 'Comm1', 'Setup', 'Parameters', 'Homing', 'Motor', 'Motion', 'MotionBlock', 'GantryControl', 'I/O', 'DigitalControl', and 'AnalogControl'. The main area is divided into 'Engine Info' and 'Comm1' sections. The 'Comm1' section includes 'Master Setting' (CommCycle [us], IP Addr, PrintLog, MessageLevel) and 'Remote Station Setting' (SlaveID, Model, IP Addr, AxesNo, Net). The 'Auto Detection' button is highlighted with a red box. A callout bubble points to it with the text 'Click the [Auto Detection] button.' A 'Point' box at the bottom contains the following text:

Point
Before clicking the [Auto Detection] button, check that the wiring and connection settings between the personal computer and the servo amplifier and the IP address settings are correct. For the IP address setting of the servo amplifier, refer to 3.1.5.

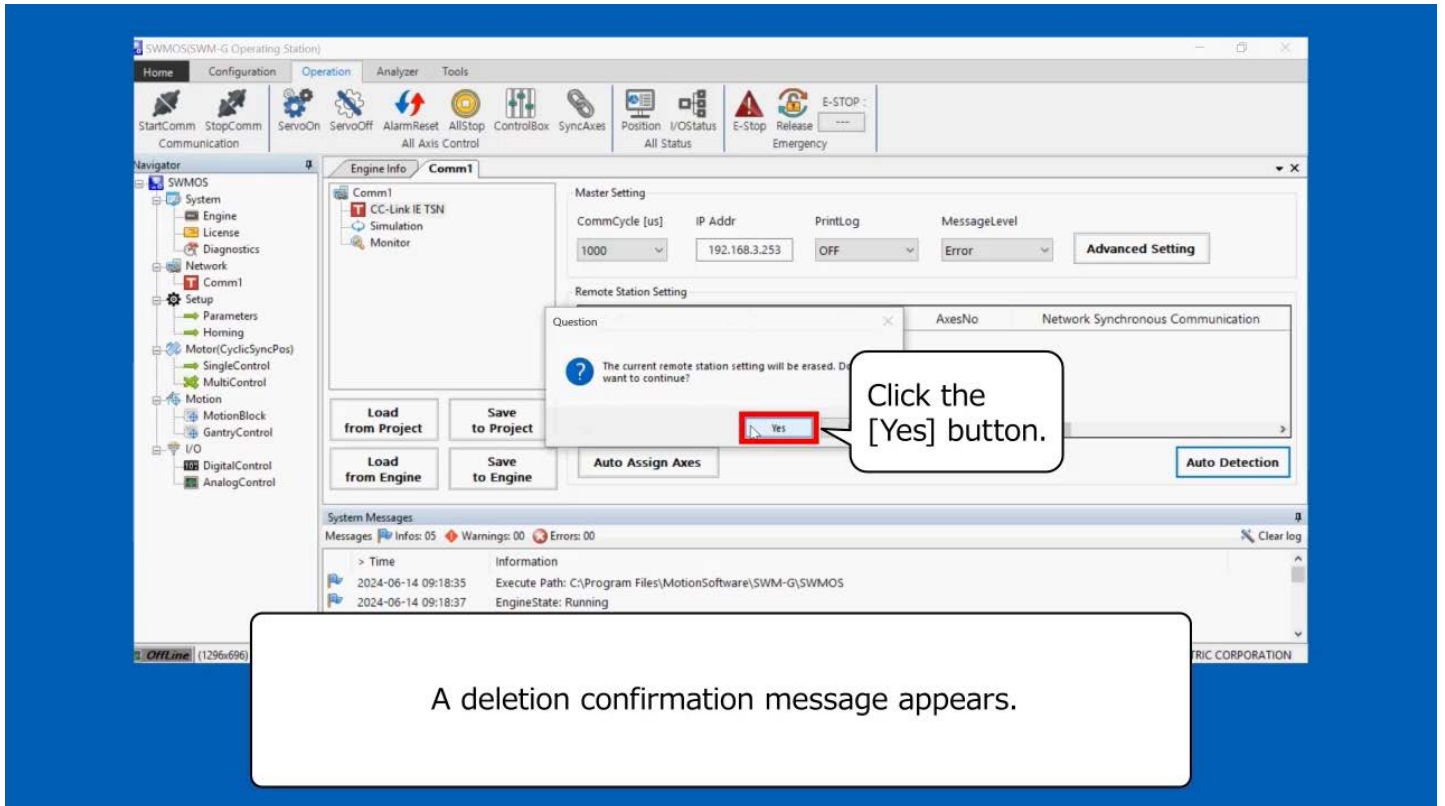
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



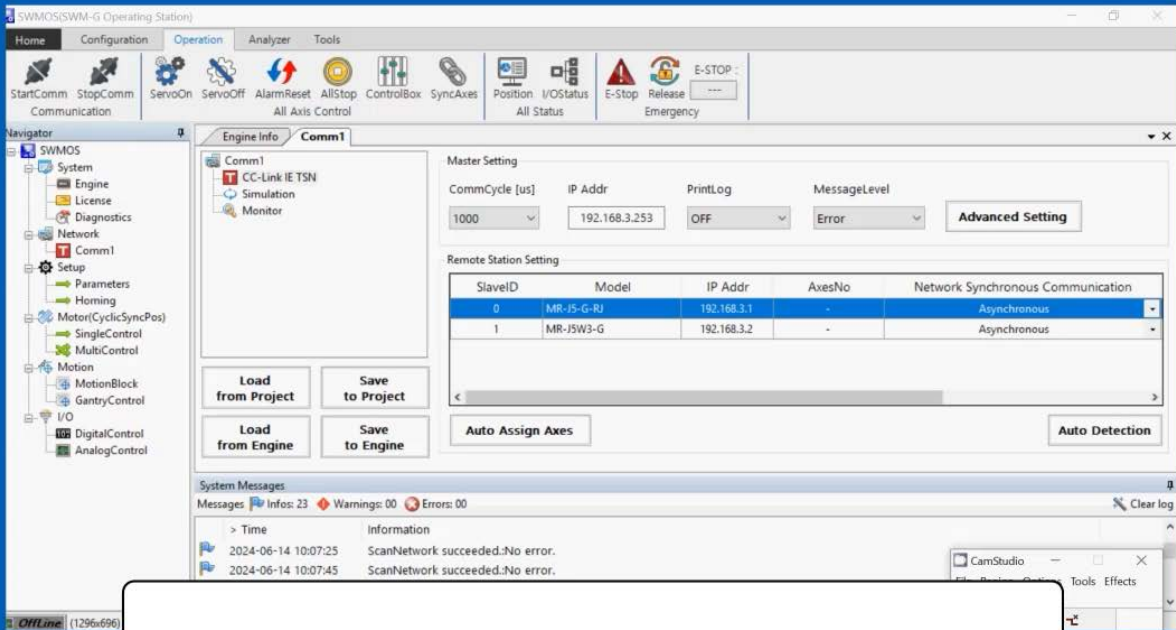
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



The screenshot displays the SWMOS (SWMOS/SWM-G Operating Station) software interface. The 'Remote Station Setting' section is active, showing a table of detected slave stations. The table has the following data:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-JS-G-RJ	192.168.3.1	-	Asynchronous
1	MR-JSW3-G	192.168.3.2	-	Asynchronous

Below the table, there is an 'Auto Assign Axes' button and an 'Auto Detection' button. The 'System Messages' window at the bottom shows two information messages: 'ScanNetwork succeeded.No error.' at 2024-06-14 10:07:25 and 2024-06-14 10:07:45.

Two servo amplifiers have been detected.

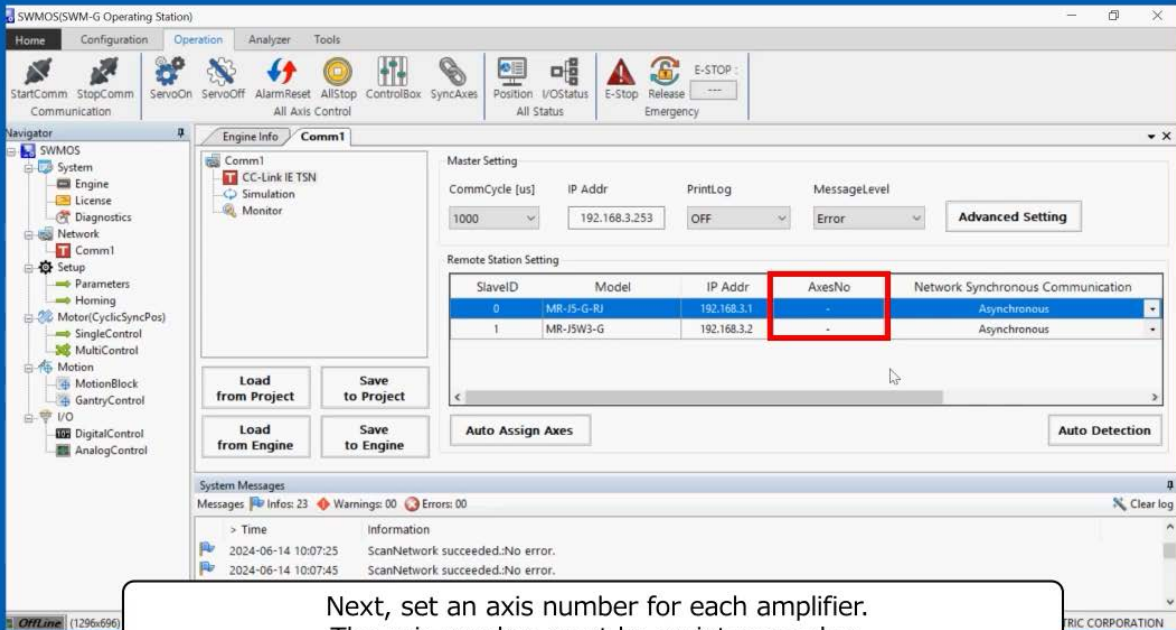
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



The screenshot shows the SWMOS (SWM-G Operating Station) software interface. The 'Remote Station Setting' window is open, displaying a table with the following data:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-JS-G-RJ	192.168.3.1	-	Asynchronous
1	MR-JS-W3-G	192.168.3.2	-	Asynchronous

The 'AxesNo' column is highlighted with a red box. Below the table, there is an 'Auto Assign Axes' button and an 'Auto Detection' button. The 'System Messages' window at the bottom shows the following messages:

```
> Time Information
2024-06-14 10:07:25 ScanNetwork succeeded.No error.
2024-06-14 10:07:45 ScanNetwork succeeded.No error.
```

Next, set an axis number for each amplifier.
The axis number must be an integer value from "0" to "Number of licensed axes - 1" that does not overlap.
For example, when the number of licensed axes is 32, set an integer value from 0 to 31 as the axis number.

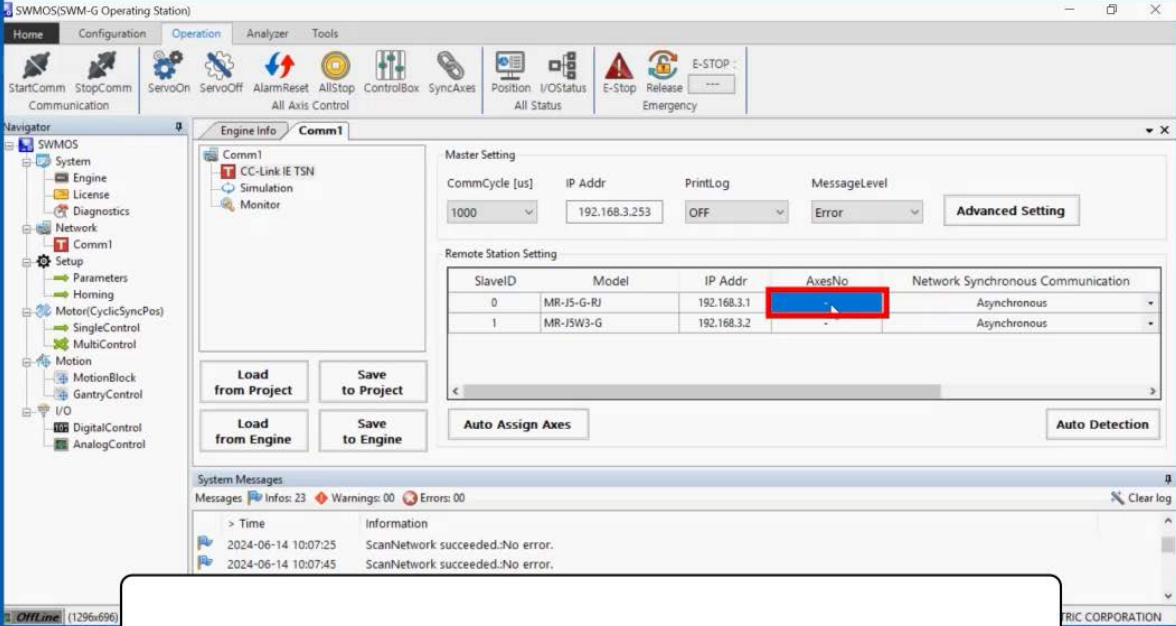
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



The screenshot shows the SWMOS (SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and has a menu bar with "Home", "Configuration", "Operation", "Analyzer", and "Tools". Below the menu bar is a toolbar with various icons for system control. The "Configuration" tab is active, and the "Engine Info" section is expanded to show "Comm1".

The "Remote Station Setting" section contains a table with the following data:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-J5-G-RJ	192.168.3.1		Asynchronous
1	MR-J5W3-G	192.168.3.2		Asynchronous

The "AxesNo" column for the "MR-J5-G-RJ" model is highlighted with a red box. Below the table are buttons for "Load from Project", "Save to Project", "Load from Engine", "Save to Engine", "Auto Assign Axes", and "Auto Detection".

The "System Messages" section at the bottom shows a log of messages:

```
Messages: 23 Infos: 23 Warnings: 00 Errors: 00
> Time Information
2024-06-14 10:07:25 ScanNetwork succeeded.No error.
2024-06-14 10:07:45 ScanNetwork succeeded.No error.
```

A callout box at the bottom of the screenshot contains the text: "Double-click a cell in the [AxesNo] column for [Model] MR-J5-G-RJ."

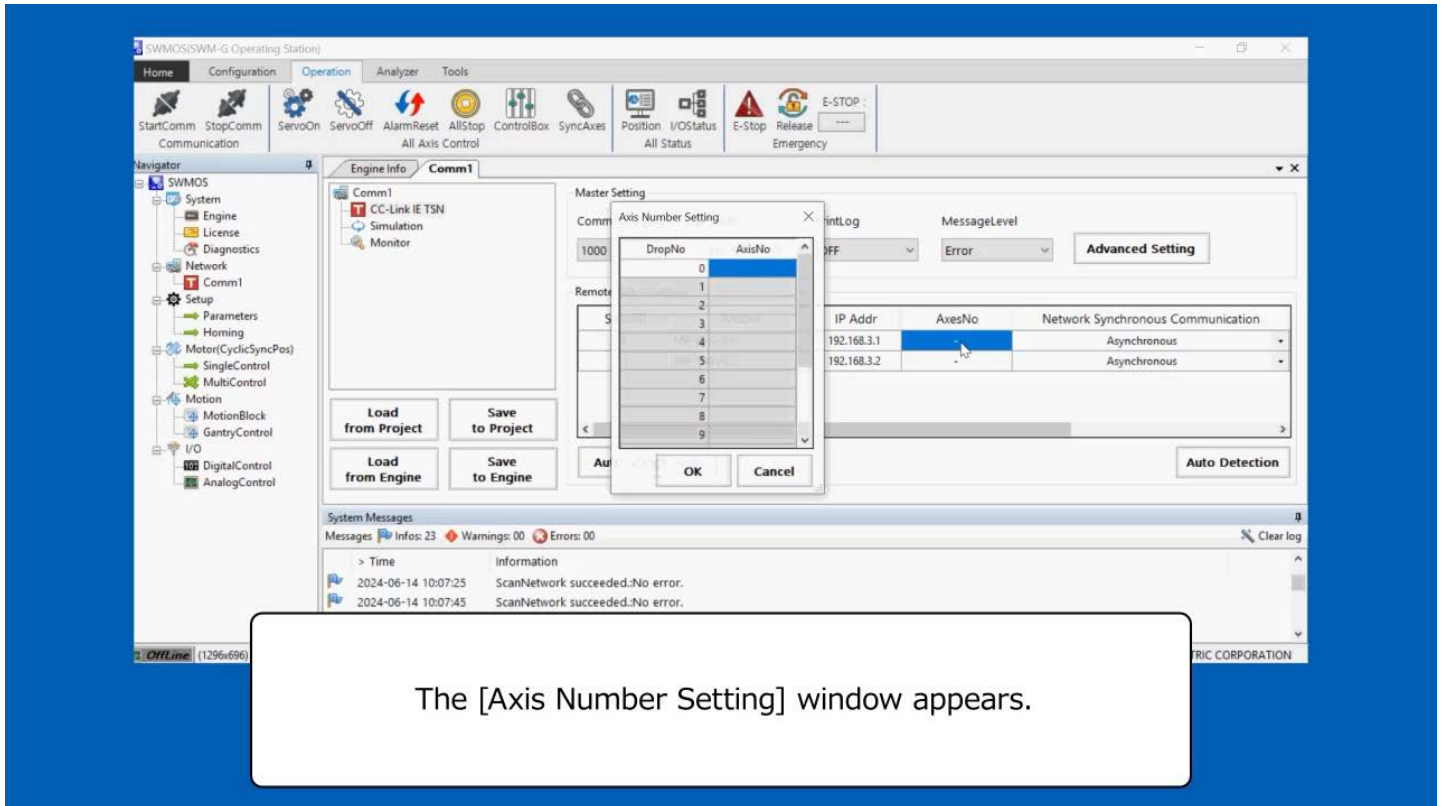
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



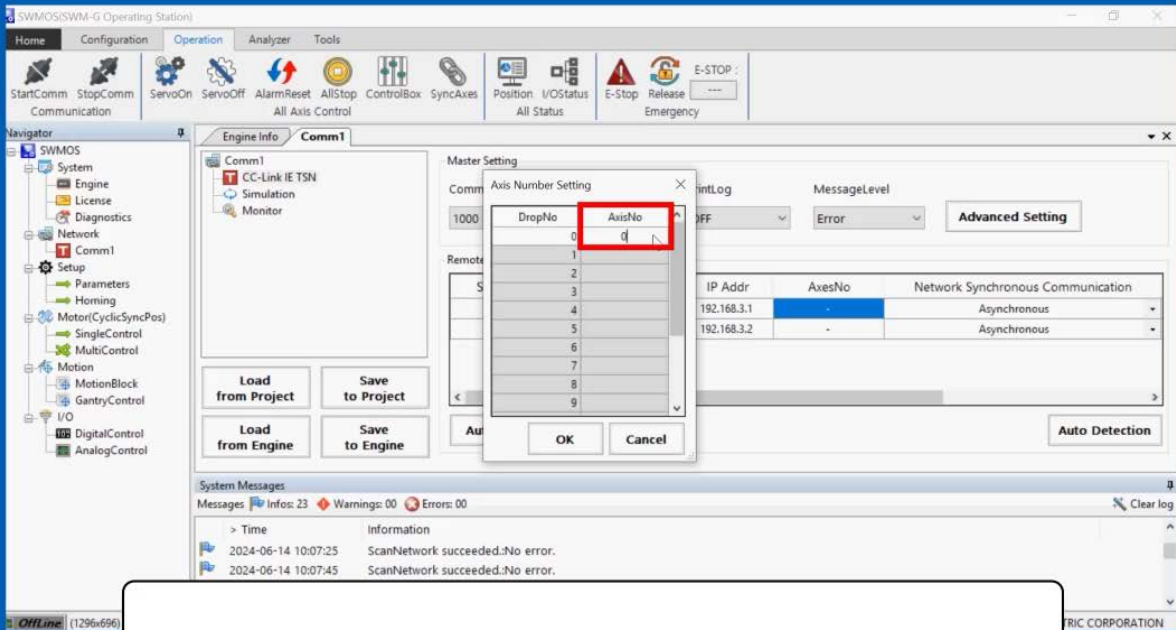
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



The screenshot shows the SWMOS/SWM-G Operating Station software interface. A dialog box titled "Axis Number Setting" is open, displaying a table with two columns: "DropNo" and "AxisNo". The "AxisNo" for "DropNo" 0 is highlighted with a red box. The background shows the "Master Setting" dialog box with "Comm 1" selected and the "Auto Detection" button.

DropNo	AxisNo
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

System Messages:

Time	Information
2024-06-14 10:07:25	ScanNetwork succeeded.No error.
2024-06-14 10:07:45	ScanNetwork succeeded.No error.

Offline (1296x696)

TRIC CORPORATION

Set the axis number "0" for DropNo "0".

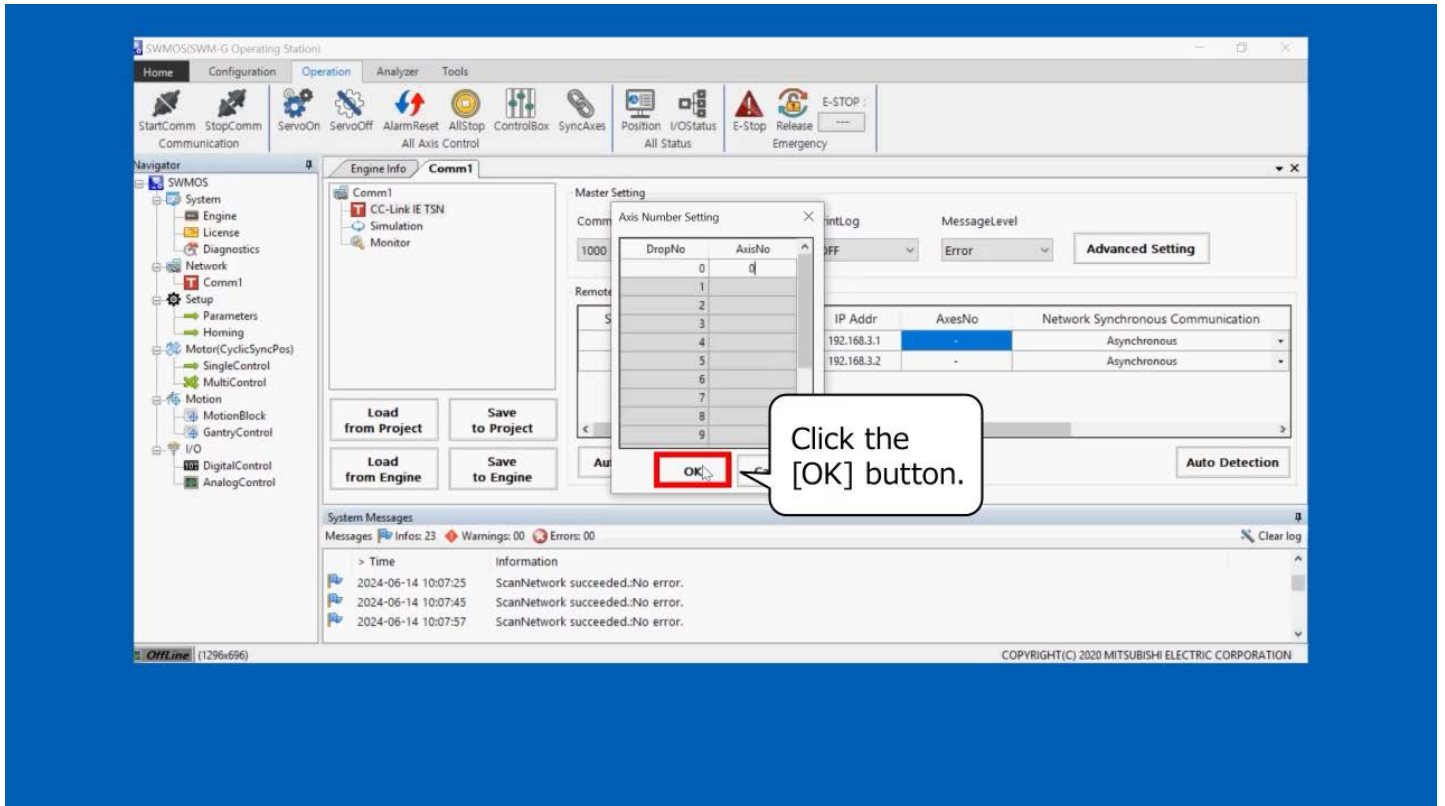
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



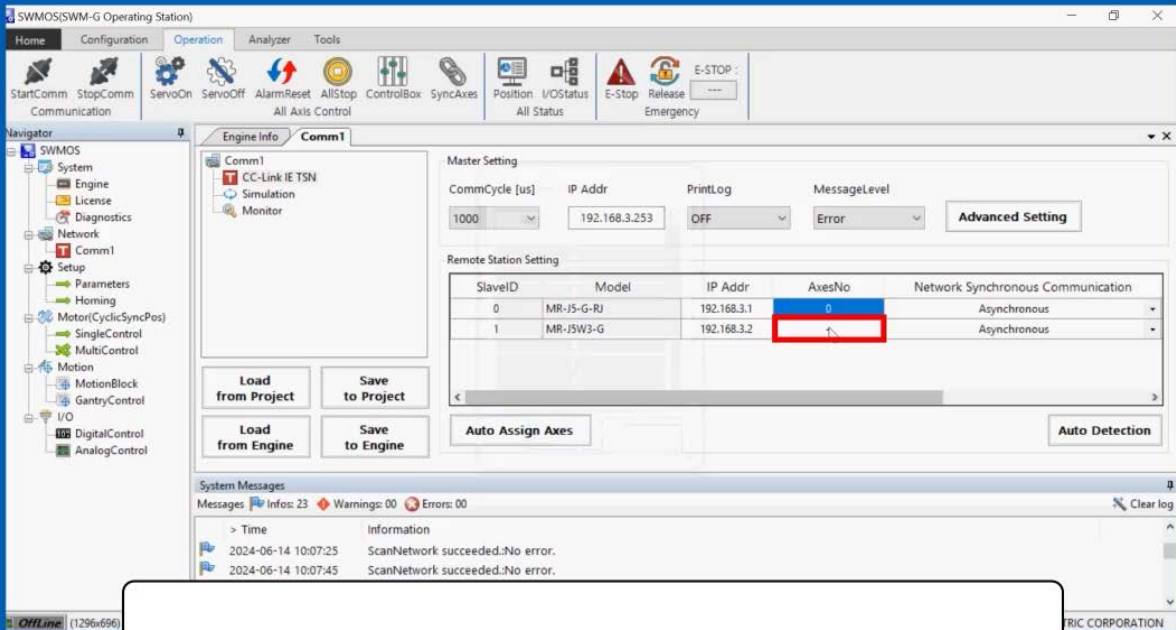
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



The screenshot displays the 'Remote Station Setting' configuration window. It includes a table with the following data:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-J5-G-RJ	192.168.3.1	0	Asynchronous
1	MR-J5W3-G	192.168.3.2	0	Asynchronous

A red box highlights the '0' in the 'AxesNo' column for the MR-J5W3-G model. A callout box at the bottom of the screenshot contains the following text:

In the same way, set the axis number for [Model] MR-J5W3-G.
Double-click a cell in the [AxesNo] column.

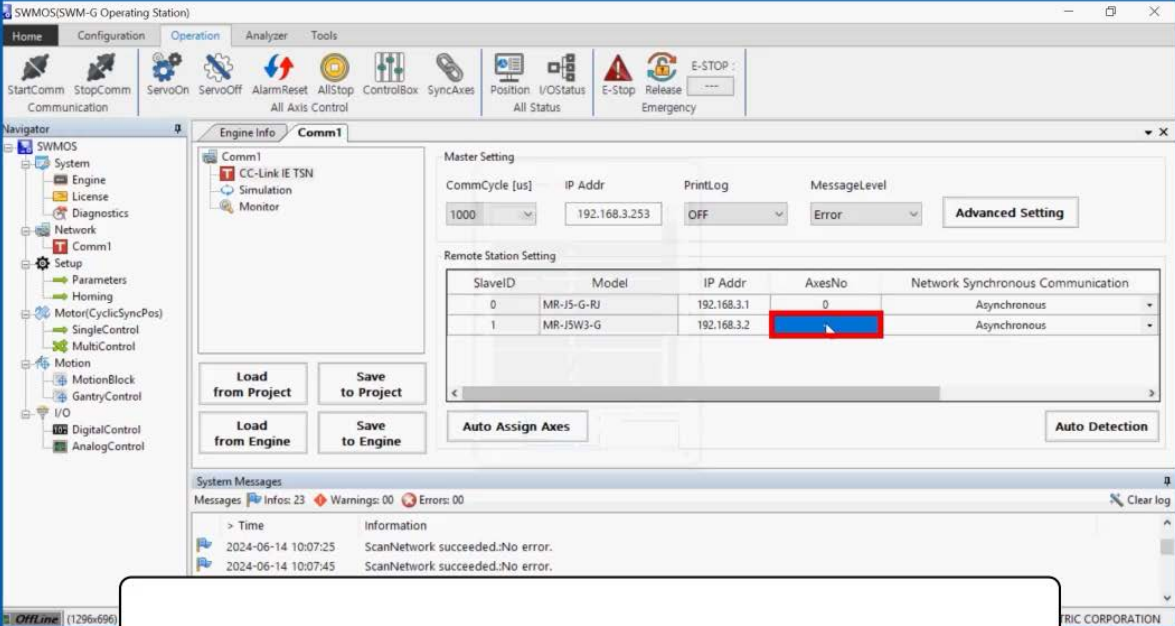
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and features a menu bar with "Home", "Configuration", "Operation", "Analyzer", and "Tools". Below the menu bar is a toolbar with various icons for system control, including "StartComm", "StopComm", "ServoOn", "ServoOff", "AlarmReset", "AllStop", "ControlBox", "SyncAxes", "Position", "I/OStatus", "E-stop", "Release", and "Emergency".

The "Navigator" pane on the left shows a tree view of the system configuration, with "Comm1" selected under the "Network" category. The main area is divided into "Master Setting" and "Remote Station Setting".

Master Setting:

CommCycle [us]	IP Addr	PrintLog	MessageLevel
1000	192.168.3.253	OFF	Error

Remote Station Setting:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-J5-G-RJ	192.168.3.1	0	Asynchronous
1	MR-J5W3-G	192.168.3.2		Asynchronous

The "AxesNo" cell for the "MR-J5W3-G" model is highlighted with a red box. Below the table are buttons for "Load from Project", "Save to Project", "Load from Engine", "Save to Engine", "Auto Assign Axes", and "Auto Detection".

System Messages:

Messages: 23 | Infos: 23 | Warnings: 00 | Errors: 00

> Time Information
2024-06-14 10:07:25 ScanNetwork succeeded.No error.
2024-06-14 10:07:45 ScanNetwork succeeded.No error.

In the same way, set the axis number for [Model] MR-J5W3-G.
Double-click a cell in the [AxesNo] column.

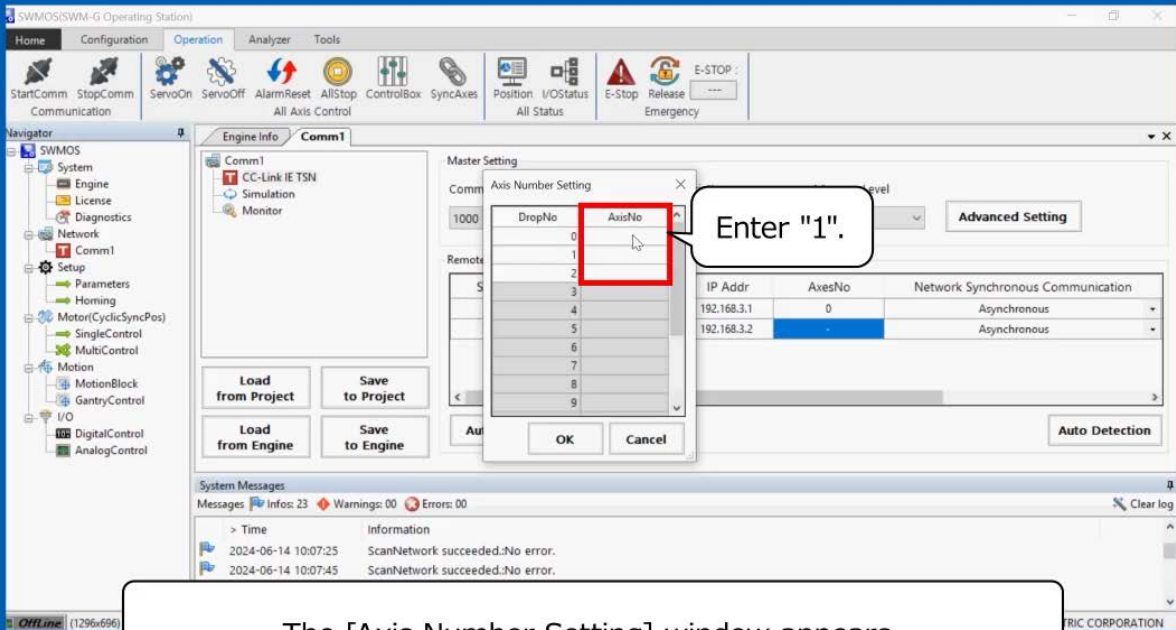
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



The [Axis Number Setting] window appears.
Set an axis number for each DropNo.
Assign three axis numbers to a 3-axis integrated servo amplifier.

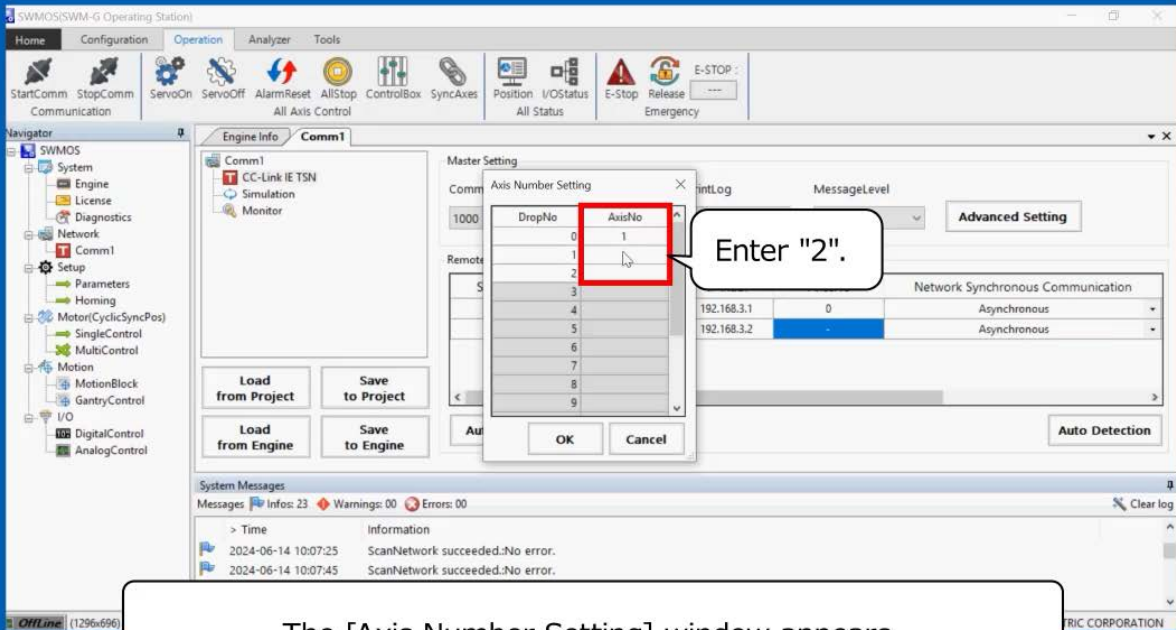
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



The [Axis Number Setting] window appears.
Set an axis number for each DropNo.
Assign three axis numbers to a 3-axis integrated servo amplifier.

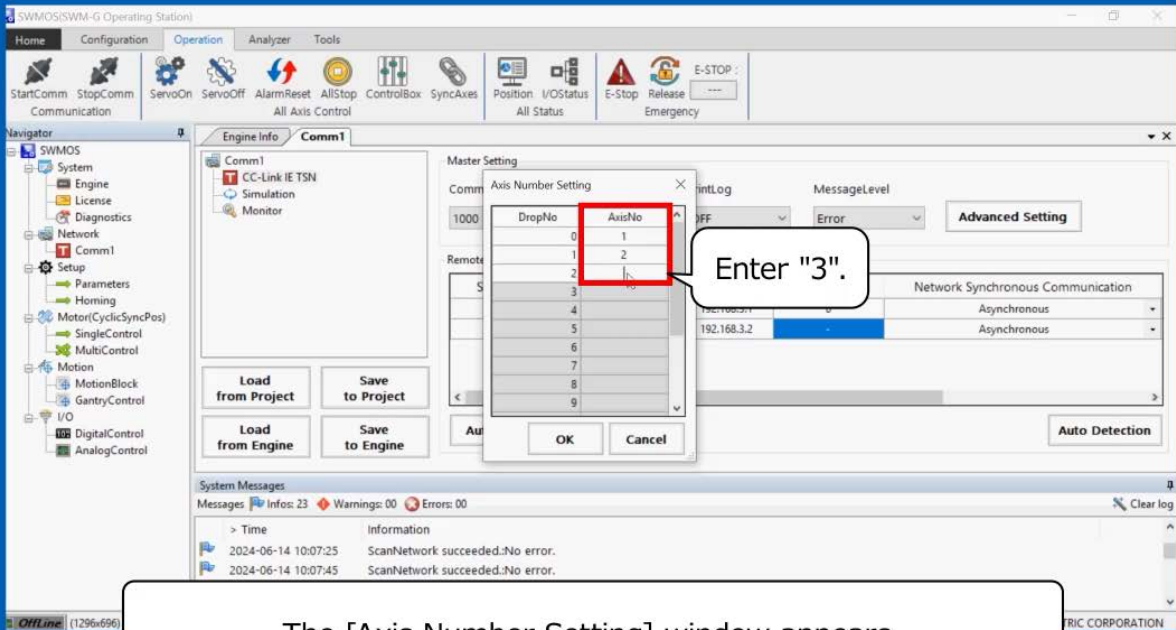
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



The screenshot shows the SWMOS software interface. A dialog box titled "Axis Number Setting" is open, displaying a table with two columns: "DropNo" and "AxisNo". The "AxisNo" column is highlighted with a red box, and a callout bubble points to it with the text "Enter '3'." The background shows the "Master Setting" window with "Comm 1" selected. The "System Messages" window at the bottom shows two messages: "2024-06-14 10:07:25 ScanNetwork succeeded.No error." and "2024-06-14 10:07:45 ScanNetwork succeeded.No error."

DropNo	AxisNo
0	1
1	2
2	3
3	
4	
5	
6	
7	
8	
9	

The [Axis Number Setting] window appears.
Set an axis number for each DropNo.
Assign three axis numbers to a 3-axis integrated servo amplifier.

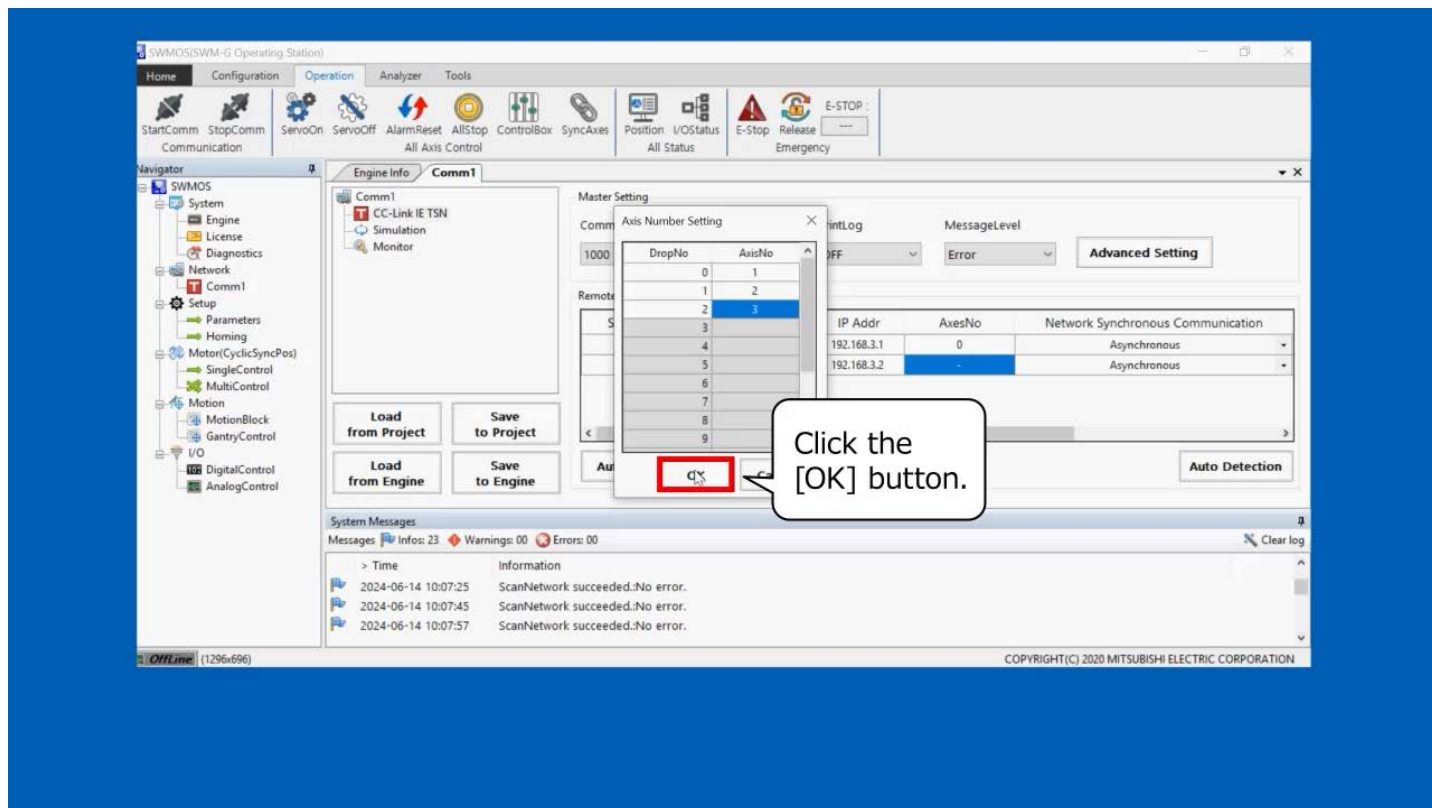
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



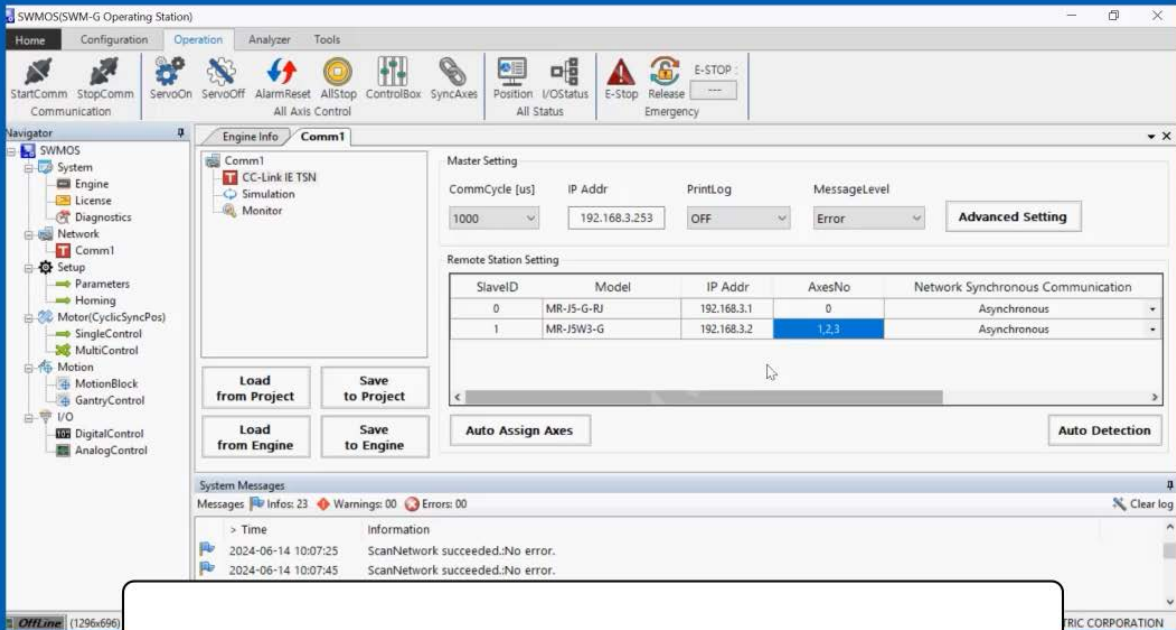
2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window shows the 'Remote Station Setting' configuration for 'Comm1'. The 'Master Setting' section includes fields for 'CommCycle [us]' (1000), 'IP Addr' (192.168.3.253), 'PrintLog' (OFF), and 'MessageLevel' (Error). The 'Remote Station Setting' table lists two slave stations:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-JS-G-RJ	192.168.3.1	0	Asynchronous
1	MR-JS3-G	192.168.3.2	1,2,3	Asynchronous

The 'Auto Assign Axes' button is highlighted, indicating the completion of the automatic detection process. The 'System Messages' panel at the bottom shows two messages: '2024-06-14 10:07:25 ScanNetwork succeeded.No error.' and '2024-06-14 10:07:45 ScanNetwork succeeded.No error.'

Now you have completed the remote station settings by the automatic detection function.

2.4

Remote Station Setting

2.4.1

Remote station setting by automatic detection function

Next, this section describes the remote station setting by the automatic detection function.
For the procedure, see the video below.

The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and features a top toolbar with various control buttons such as StartComm, StopComm, ServoOn, ServoOff, AlarmReset, AllStop, ControlBox, SyncAxes, Position, I/OStatus, E-stop, Release, and Emergency. A Navigator on the left side shows a tree view of the system configuration, including System, Engine, License, Diagnostics, Network, Comm1, Setup, Parameters, Homing, Motor(CyclicSyncPos), SingleControl, MultiControl, Motion, MotionBlock, GantryControl, I/O, DigitalControl, and AnalogControl. The main configuration area is divided into several sections: "Master Setting" with fields for CommCycle [us] (1000), IP Addr (192.168.3.253), PrintLog (OFF), and MessageLevel (Error); "Remote Station Setting" which includes a table with the following data:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-JS-G-RJ	192.168.3.1	0	Asynchronous
1	MR-JS-W3-G	192.168.3.2	1,2,3	Asynchronous

Below the table are buttons for "Load from Project", "Save to Project", "Load from Engine", "Save to Engine", "Auto Assign Axes", and "Auto Detection". The "System Messages" window at the bottom shows two informational messages: "2024-06-14 10:07:25 ScanNetwork succeeded.No error." and "2024-06-14 10:07:45 ScanNetwork succeeded.No error." A white box with the text "Go to the next page." is overlaid on the bottom right of the screenshot.

2.4.2

Writing to SWM-G engine

Next, this section describes the procedure for writing the master and remote station settings set in Section 2.3 and 2.4.1 to the engine.

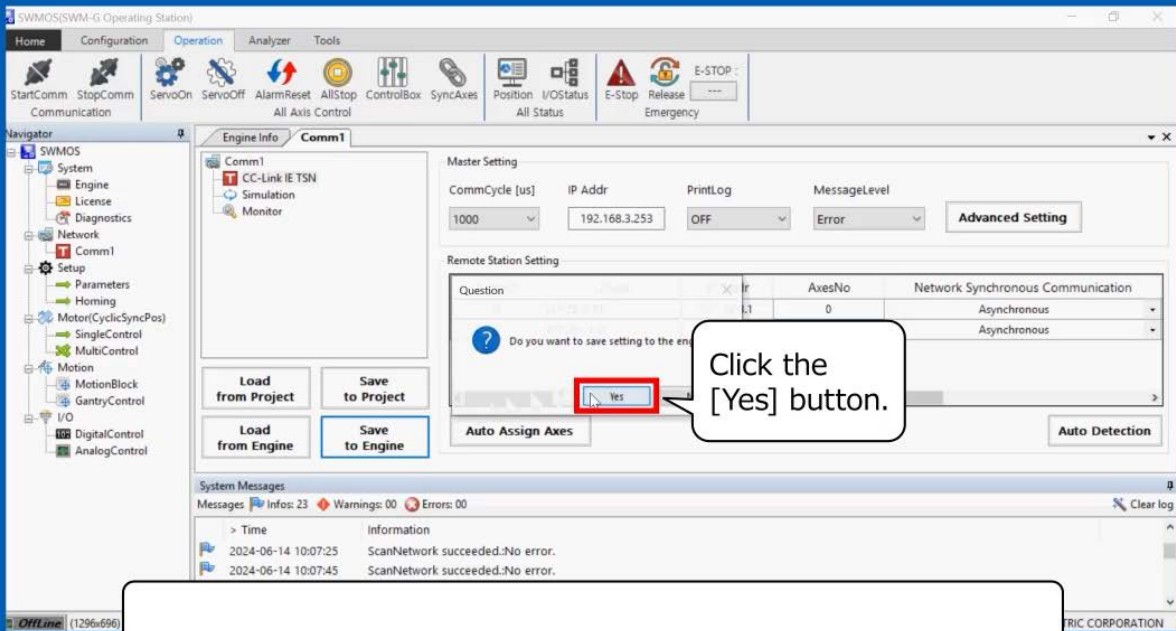
For the procedure, see the video below.

Click the play button at the lower left of the screen.

Click the [Save to Engine] button.

Next, this section describes the procedure for writing the master and remote station settings set in Section 2.3 and 2.4.1 to the engine.

For the procedure, see the video below.



The screenshot displays the SWMOS/SWM-G Operating Station software interface. The main window is titled "SWMOS/SWM-G Operating Station" and features a menu bar with "Home", "Configuration", "Operation", "Analyzer", and "Tools". Below the menu bar is a toolbar with various icons for system control, including "StartComm", "StopComm", "ServoOn", "ServoOff", "AlarmReset", "AllStop", "ControlBox", "SyncAxes", "Position", "I/OStatus", "E-Stop", "Release", and "Emergency".

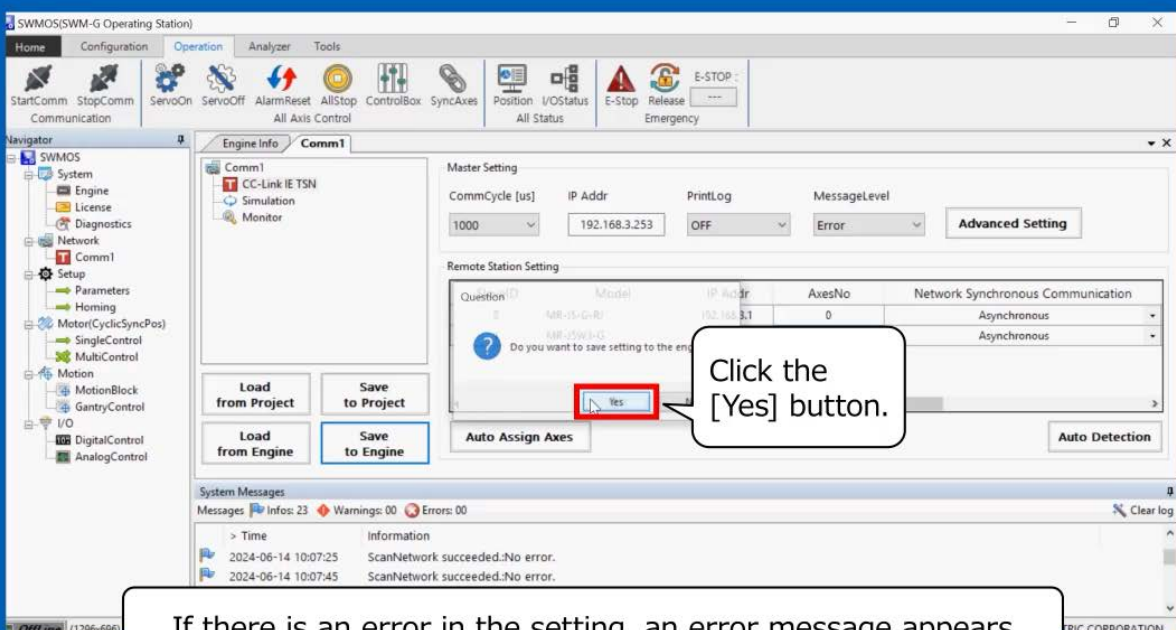
The "Engine Info" tab is active, showing "Comm1" selected. The "Master Setting" section includes fields for "CommCycle [us]" (set to 1000), "IP Addr" (192.168.3.253), "PrintLog" (OFF), and "MessageLevel" (Error). The "Remote Station Setting" section contains a table with columns for "Question", "AxesNo", and "Network Synchronous Communication". A dialog box is overlaid on the interface, asking "Do you want to save setting to the engine?". The "Yes" button in this dialog is highlighted with a red box, and a callout bubble points to it with the text "Click the [Yes] button."

At the bottom of the interface, the "System Messages" panel shows two information messages: "2024-06-14 10:07:25 ScanNetwork succeeded.No error." and "2024-06-14 10:07:45 ScanNetwork succeeded.No error."

A white callout box at the bottom of the image contains the text: "A writing confirmation message appears."

Next, this section describes the procedure for writing the master and remote station settings set in Section 2.3 and 2.4.1 to the engine.

For the procedure, see the video below.



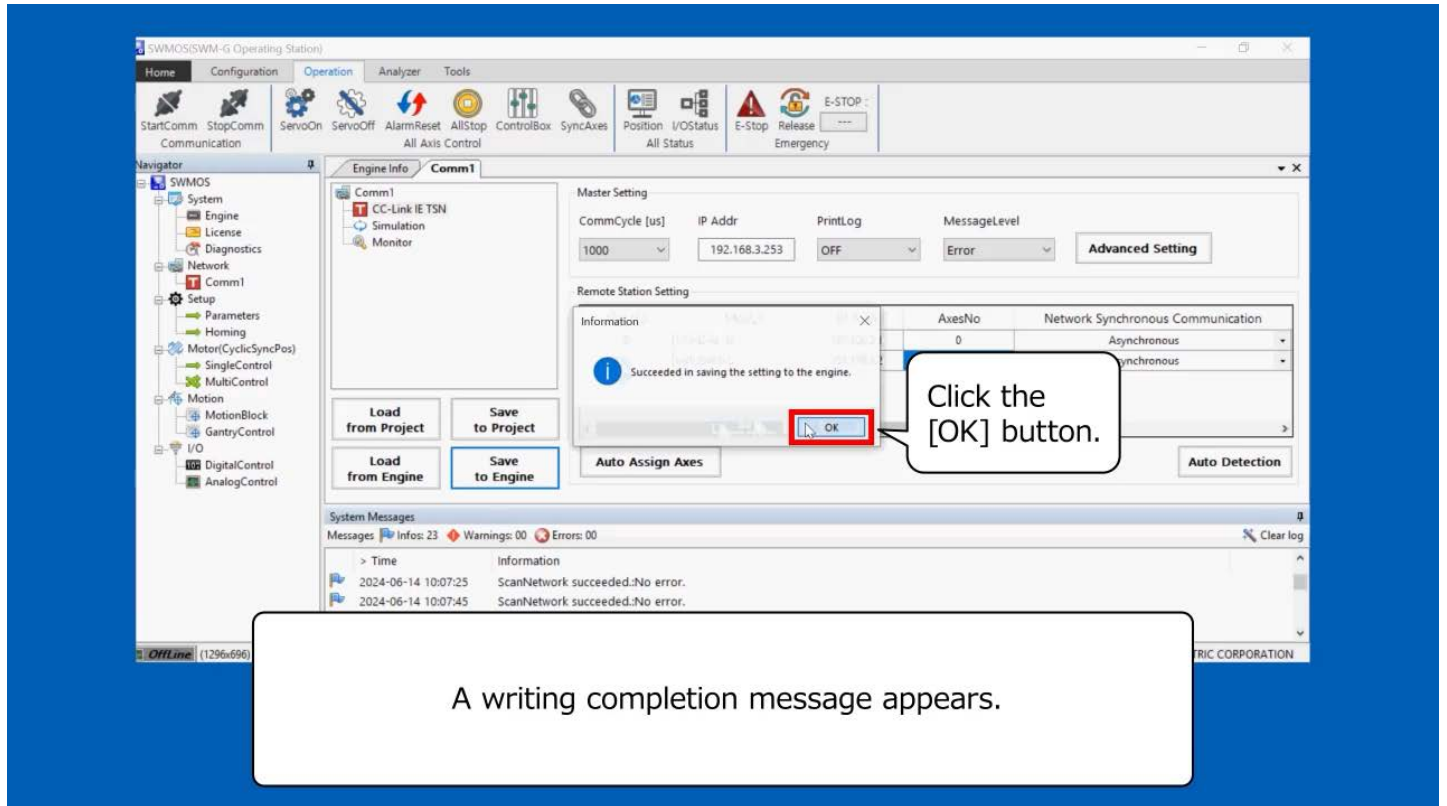
Click the [Yes] button.

If there is an error in the setting, an error message appears.
For troubleshooting, refer to the following.

- ☐ Motion Control Software SWM-G User's Manual (Startup)
- ☐ Motion Control Software SWM-G Operating Manual

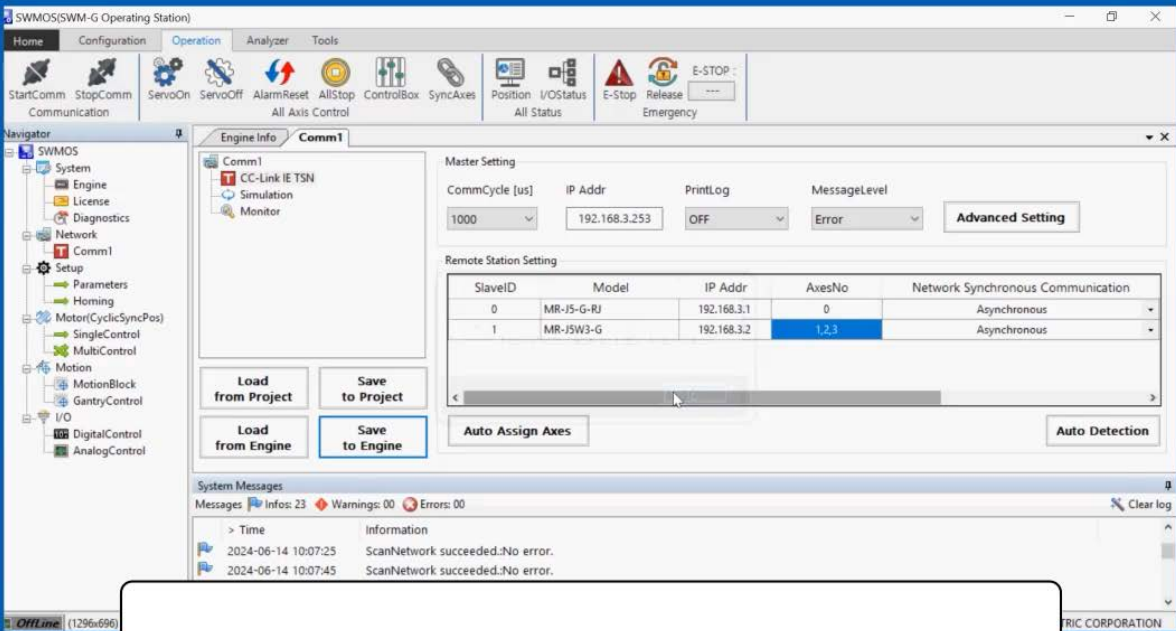
Next, this section describes the procedure for writing the master and remote station settings set in Section 2.3 and 2.4.1 to the engine.

For the procedure, see the video below.



Next, this section describes the procedure for writing the master and remote station settings set in Section 2.3 and 2.4.1 to the engine.

For the procedure, see the video below.



The screenshot displays the SWMOS(SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and features a menu bar with "Home", "Configuration", "Operation", "Analyzer", and "Tools". Below the menu bar is a toolbar with various icons for system control, including "StartComm", "StopComm", "ServoOn", "ServoOff", "AlarmReset", "AllStop", "ControlBox", "SyncAxes", "Position", "I/OStatus", "E-Stop", "Release", and "Emergency".

The "Engine Info" window is open, showing the "Comm1" configuration. The "Master Setting" section includes fields for "CommCycle [us]" (set to 1000), "IP Addr" (192.168.3.253), "PrintLog" (OFF), and "MessageLevel" (Error). The "Remote Station Setting" section contains a table with the following data:

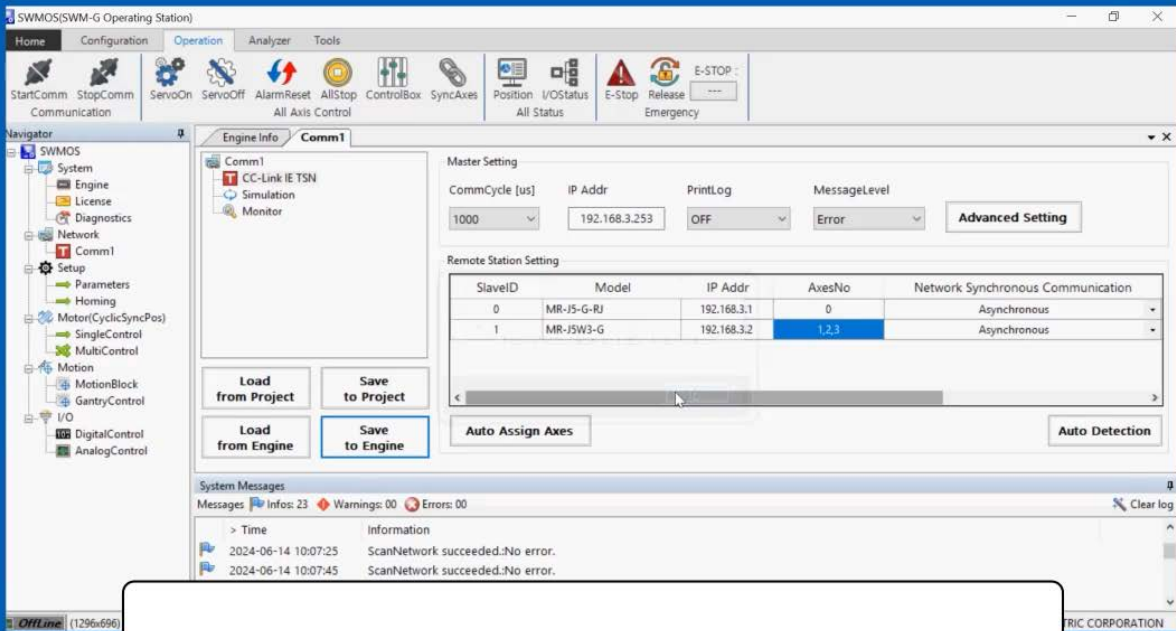
SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-JS-G-RJ	192.168.3.1	0	Asynchronous
1	MR-JSW3-G	192.168.3.2	1,2,3	Asynchronous

Buttons for "Load from Project", "Save to Project", "Load from Engine", "Save to Engine", "Auto Assign Axes", and "Auto Detection" are visible. The "System Messages" window at the bottom shows two information messages: "ScanNetwork succeeded.No error." from 2024-06-14 10:07:25 and 2024-06-14 10:07:45.

Now you have written the settings to the engine.

Next, this section describes the procedure for writing the master and remote station settings set in Section 2.3 and 2.4.1 to the engine.

For the procedure, see the video below.



The screenshot displays the SWMOS(SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and features a menu bar with "Home", "Configuration", "Operation", "Analyzer", and "Tools". Below the menu bar is a toolbar with various icons for system control, including "StartComm", "StopComm", "ServoOn", "ServoOff", "AlarmReset", "AllStop", "ControlBox", "SyncAxes", "Position", "I/OStatus", "E-Stop", "Release", and "Emergency".

The "Engine Info" tab is active, showing the "Comm1" configuration. The "Master Setting" section includes fields for "CommCycle [us]" (set to 1000), "IP Addr" (192.168.3.253), "PrintLog" (OFF), and "MessageLevel" (Error). There is an "Advanced Setting" button next to the MessageLevel dropdown.

The "Remote Station Setting" section contains a table with the following data:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-JS-G-RJ	192.168.3.1	0	Asynchronous
1	MR-JSW3-G	192.168.3.2	1,2,3	Asynchronous

Below the table are buttons for "Load from Project", "Save to Project", "Load from Engine", "Save to Engine", "Auto Assign Axes", and "Auto Detection".

The "System Messages" section at the bottom shows a log of messages:

```
Messages | Infos: 23 | Warnings: 00 | Errors: 00 | Clear log
> Time | Information
2024-06-14 10:07:25 | ScanNetwork succeeded.No error.
2024-06-14 10:07:45 | ScanNetwork succeeded.No error.
```

A white callout box with a black border is overlaid on the bottom center of the screenshot, containing the text "Go to the next page."

2.4.3

Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.

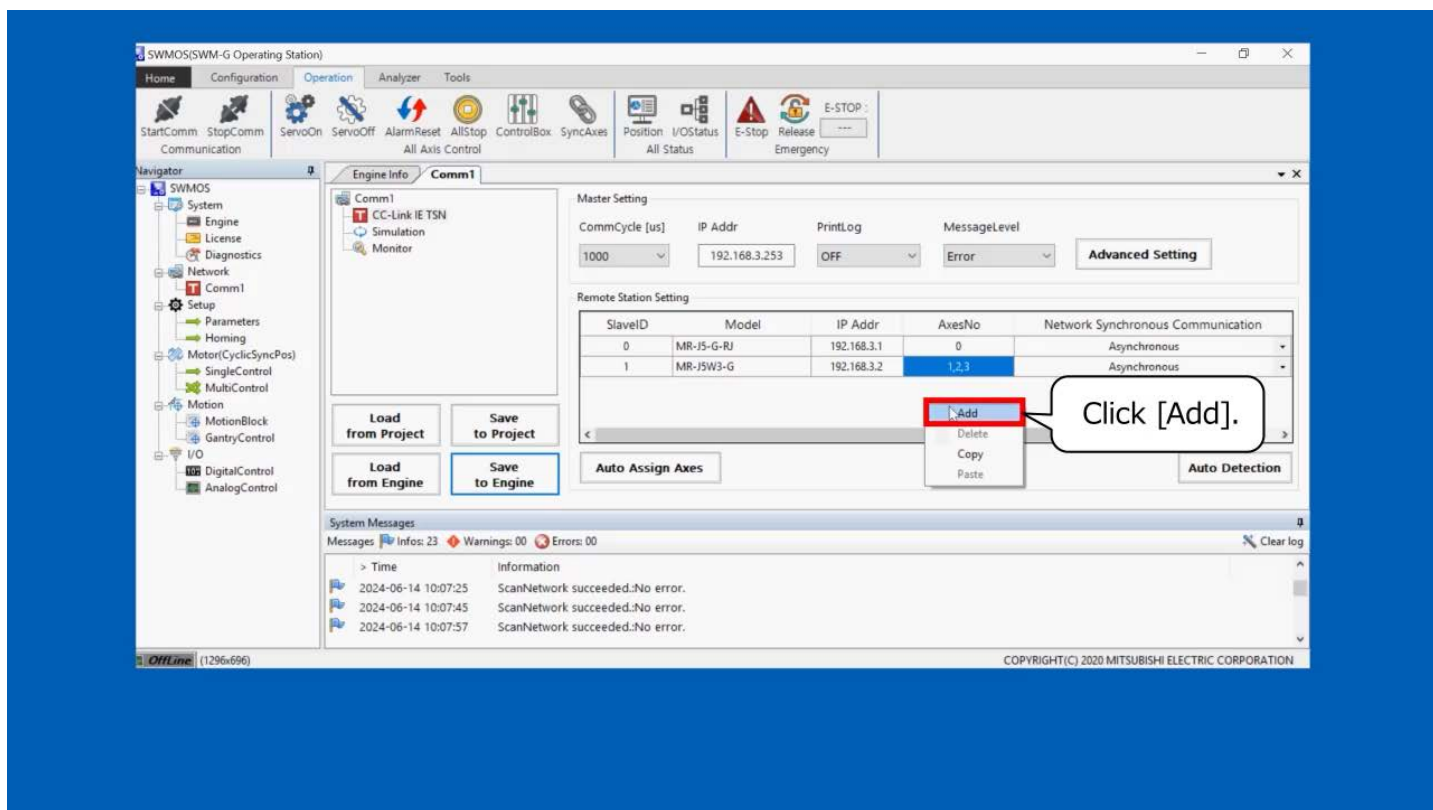
Click the play button at the lower left of the screen.

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-J5-G-RJ	192.168.3.1	0	Asynchronous
1	MR-J5W3-G	192.168.3.2	1,2,3	Asynchronous

Right-click the object list in [Slave Setting].

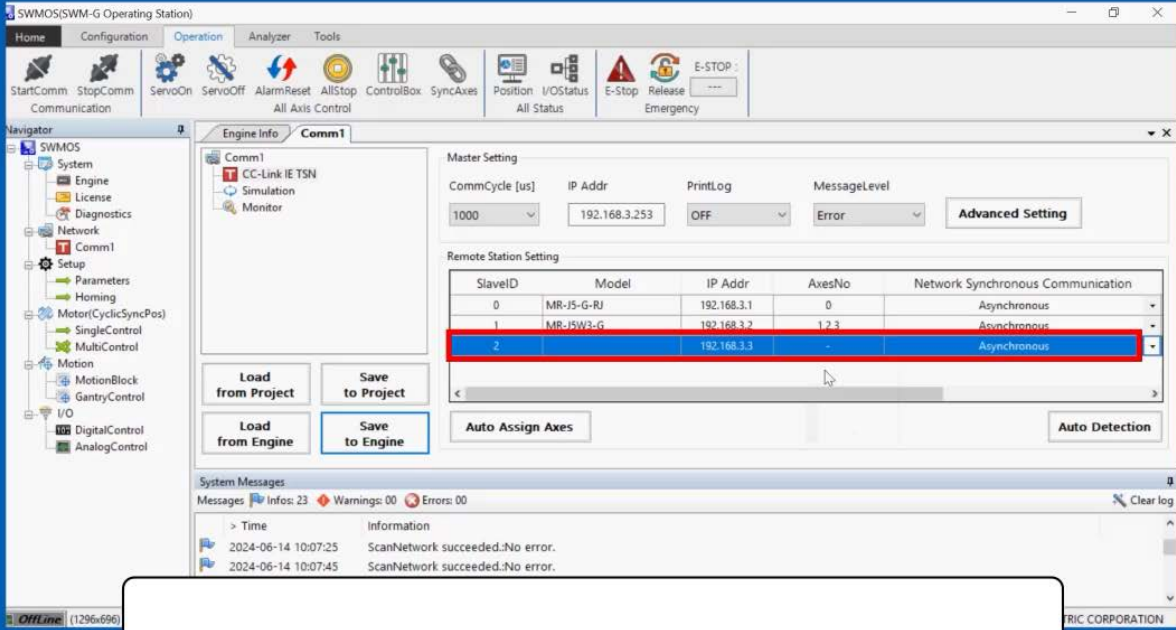
2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The 'Remote Station Setting' table is visible, showing three rows of data. The third row, representing a newly added station, is highlighted with a red border. The table columns are SlaveID, Model, IP Addr, AxesNo, and Network Synchronous Communication.

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-J5-G-RJ	192.168.3.1	0	Asynchronous
1	MR-JW3-G	192.168.3.2	1, 2, 3	Asynchronous
2		192.168.3.3	-	Asynchronous

A callout box at the bottom of the screenshot contains the text: "A row is added to the object list."

2.4.3

Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.

The screenshot shows the SWMOS (SWM-G Operating Station) software interface. The 'Remote Station Setting' table is visible, with the following data:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-J5-G-RJ	192.168.3.1	0	Asynchronous
1	MR-J5W3-G	192.168.3.2	1,2,3	Asynchronous
2		192.168.3.3	-	Asynchronous

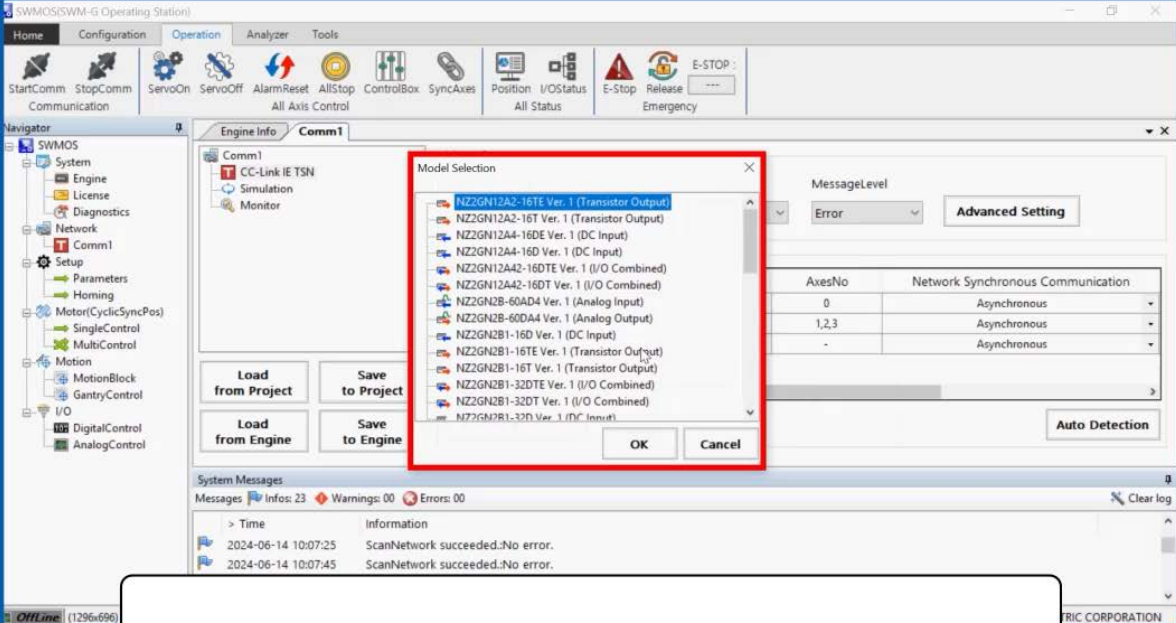
A red box highlights the empty cell in the 'Model' column for SlaveID 2. A mouse cursor is positioned over this cell. Below the table, there are buttons for 'Auto Assign Axes' and 'Auto Detection'. The 'System Messages' section at the bottom shows two information messages: '2024-06-14 10:07:25 ScanNetwork succeeded.No error.' and '2024-06-14 10:07:45 ScanNetwork succeeded.No error.'

Double-click a cell in the [Model] column.

2.4.3

Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.

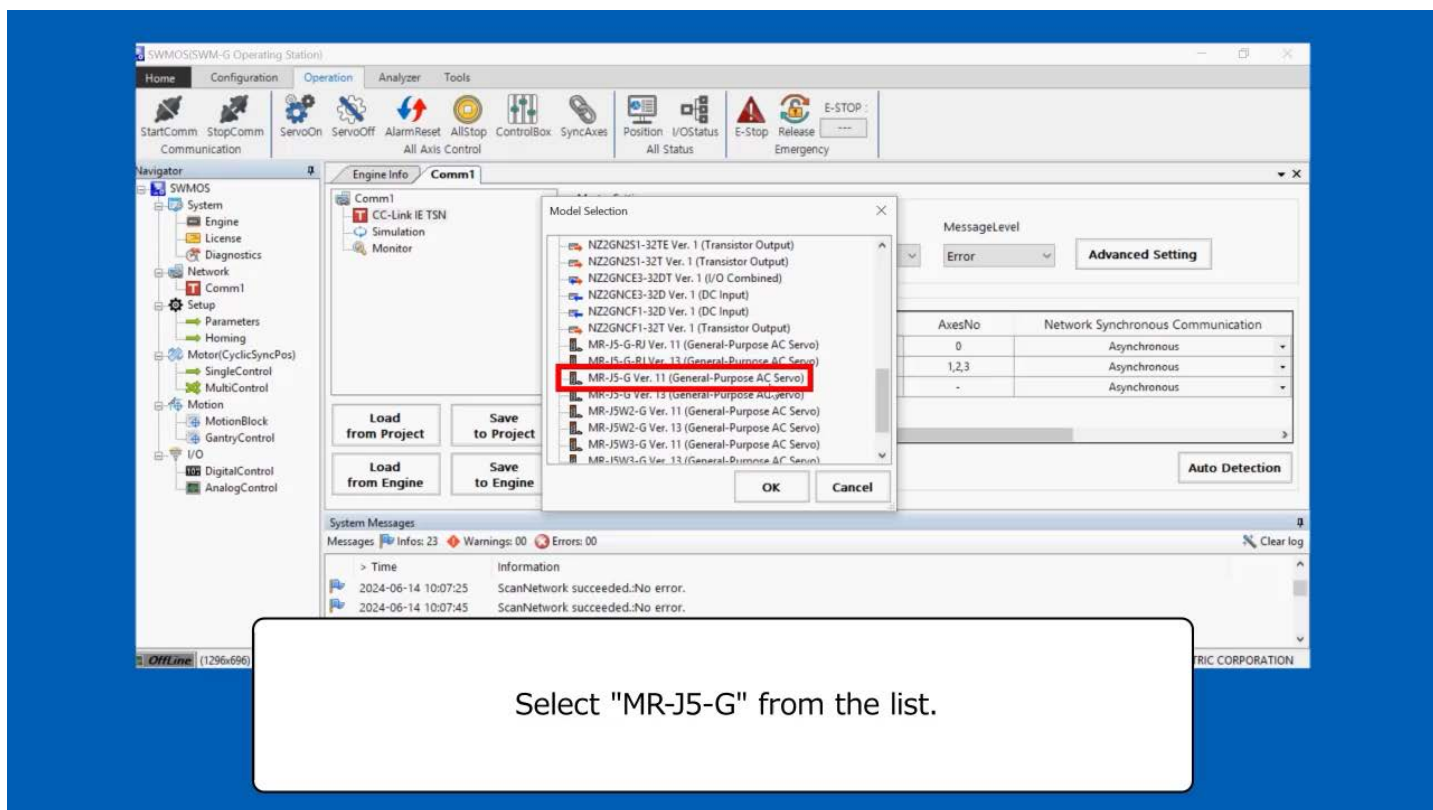


The screenshot displays the SWMOS-G Operating Station software interface. A "Model Selection" dialog box is open, listing various motor models. The first item, "NZZ2GN12A2-16TE Ver. 1 (Transistor Output)", is selected and highlighted in blue. The dialog box has "OK" and "Cancel" buttons at the bottom. In the background, the main software window shows a tree view on the left, a toolbar at the top, and a "System Messages" panel at the bottom. A white callout box with a black border is overlaid on the bottom center of the screenshot, containing the text: "The [Model Selection] window appears."

The [Model Selection] window appears.

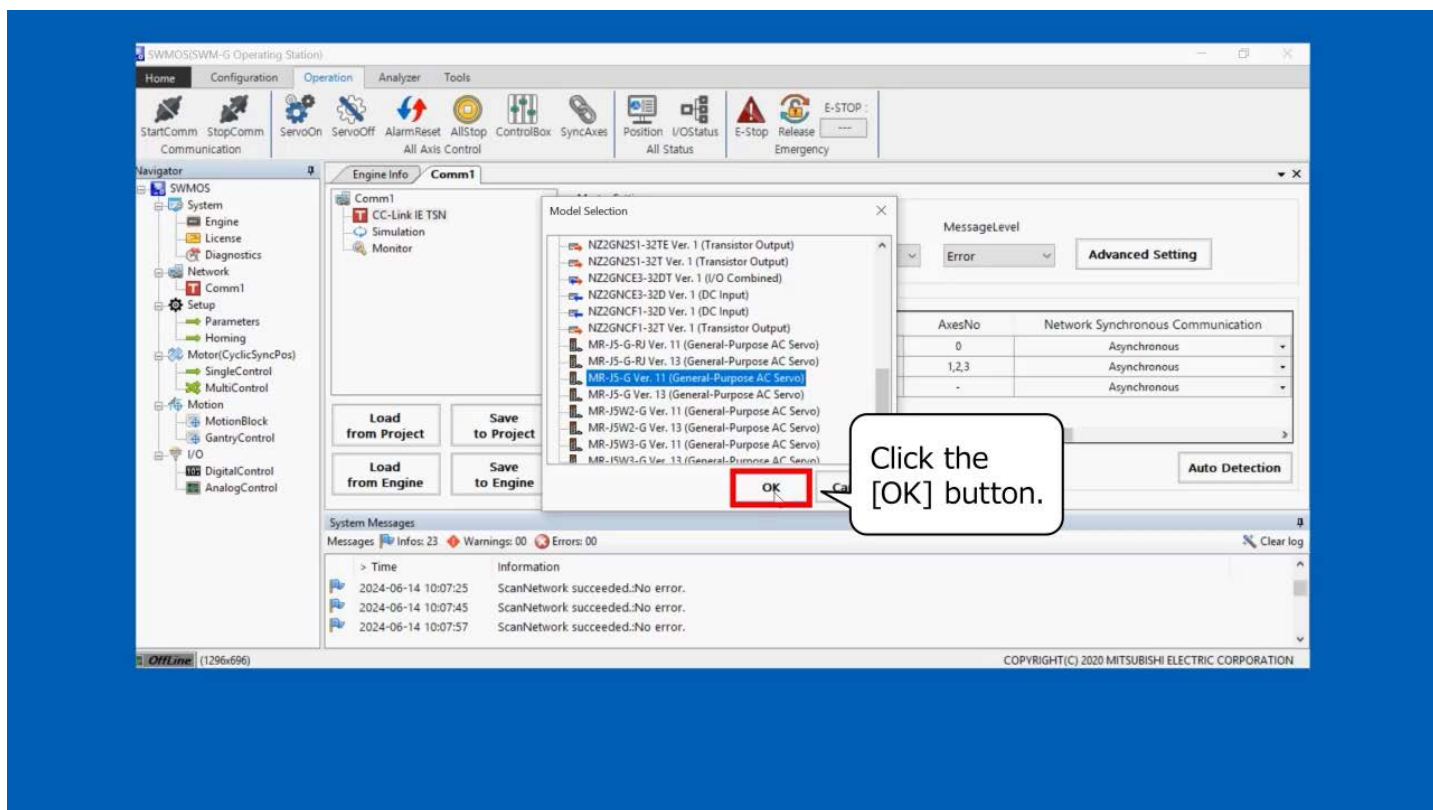
2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



2.4.3

Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.

The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and shows the "Engine Info" configuration for "Comm1". The "Remote Station Setting" section contains a table with the following data:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-J5-G-RJ	192.168.3.1	0	Asynchronous
1	MR-J5W3-G	192.168.3.2	1,2,3	Asynchronous
2	MR-J5-G	192.168.3.3	-	Asynchronous

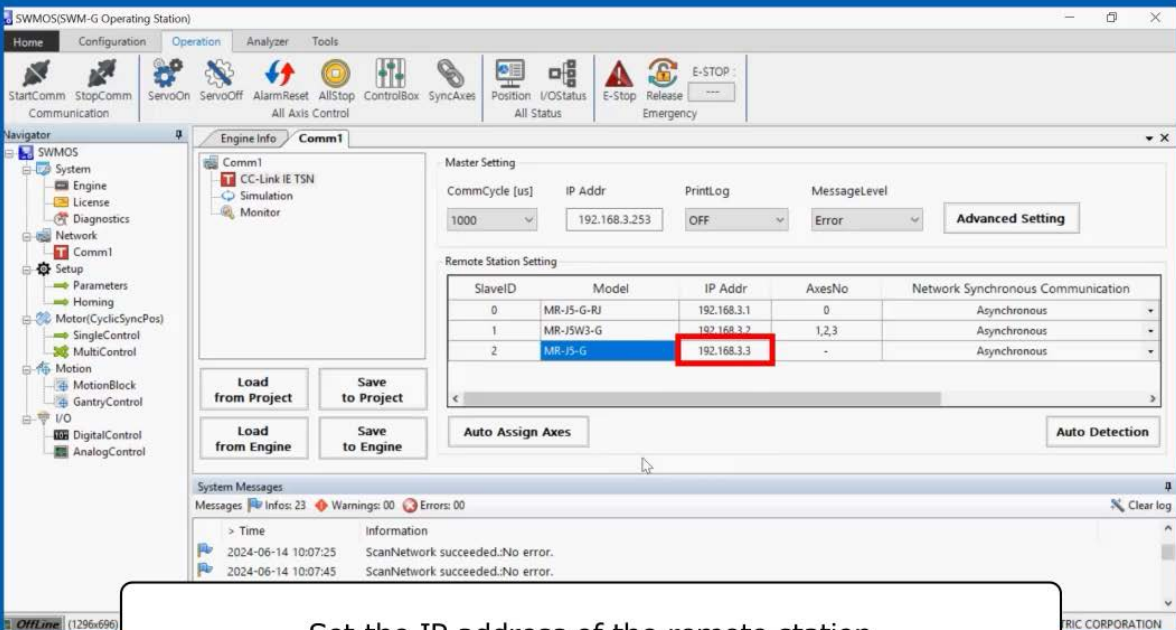
The "Model" column for SlaveID 2, "MR-J5-G", is highlighted with a red box. Below the table, there are buttons for "Auto Assign Axes" and "Auto Detection". The "System Messages" section at the bottom shows two information messages from 2024-06-14 10:07:25 and 10:07:45, both stating "ScanNetwork succeeded.No error."

The selected remote station is displayed in the [Model] column.

2.4.3

Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



The screenshot displays the 'Remote Station Setting' configuration window in the SWMOS software. The 'Remote Station Setting' section contains a table with the following data:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-JS-G-RJ	192.168.3.1	0	Asynchronous
1	MR-JSW3-G	192.168.3.2	1,2,3	Asynchronous
2	MR-JS-G	192.168.3.3	-	Asynchronous

The IP address '192.168.3.3' for SlaveID 2 is highlighted with a red box. Below the table, there are buttons for 'Auto Assign Axes' and 'Auto Detection'. The 'System Messages' section at the bottom shows two information messages: 'ScanNetwork succeeded.No error.' at 2024-06-14 10:07:25 and 2024-06-14 10:07:45.

Set the IP address of the remote station.
In this description, the default value is used.
Go to the next setting without any change.

2.4.3

Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.

The screenshot displays the SWMOS software interface. The 'Remote Station Setting' table is visible, with the following data:

SlaveID	Model	IP Addr	AxesNo	N
0	MR-J5-G-RJ	192.168.3.1	0	
1	MR-J5W3-G	192.168.3.2	1,2,3	
2	MR-J5-G	192.168.3.3		

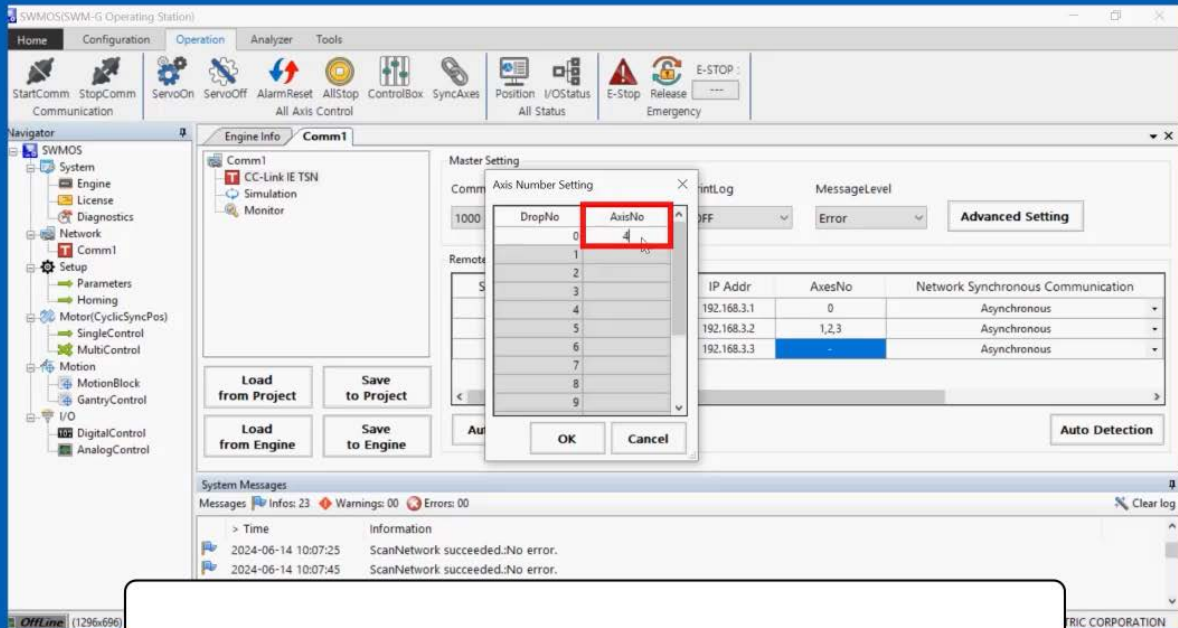
A callout box points to the cell containing '1,2,3' in the [AxesNo] column for SlaveID 1, with the text: "Double-click a cell in the [AxesNo] column."

Another callout box at the bottom of the screenshot contains the text: "Set the axis number only when the added device is a servo amplifier."

2.4.3

Remote station setting by add function

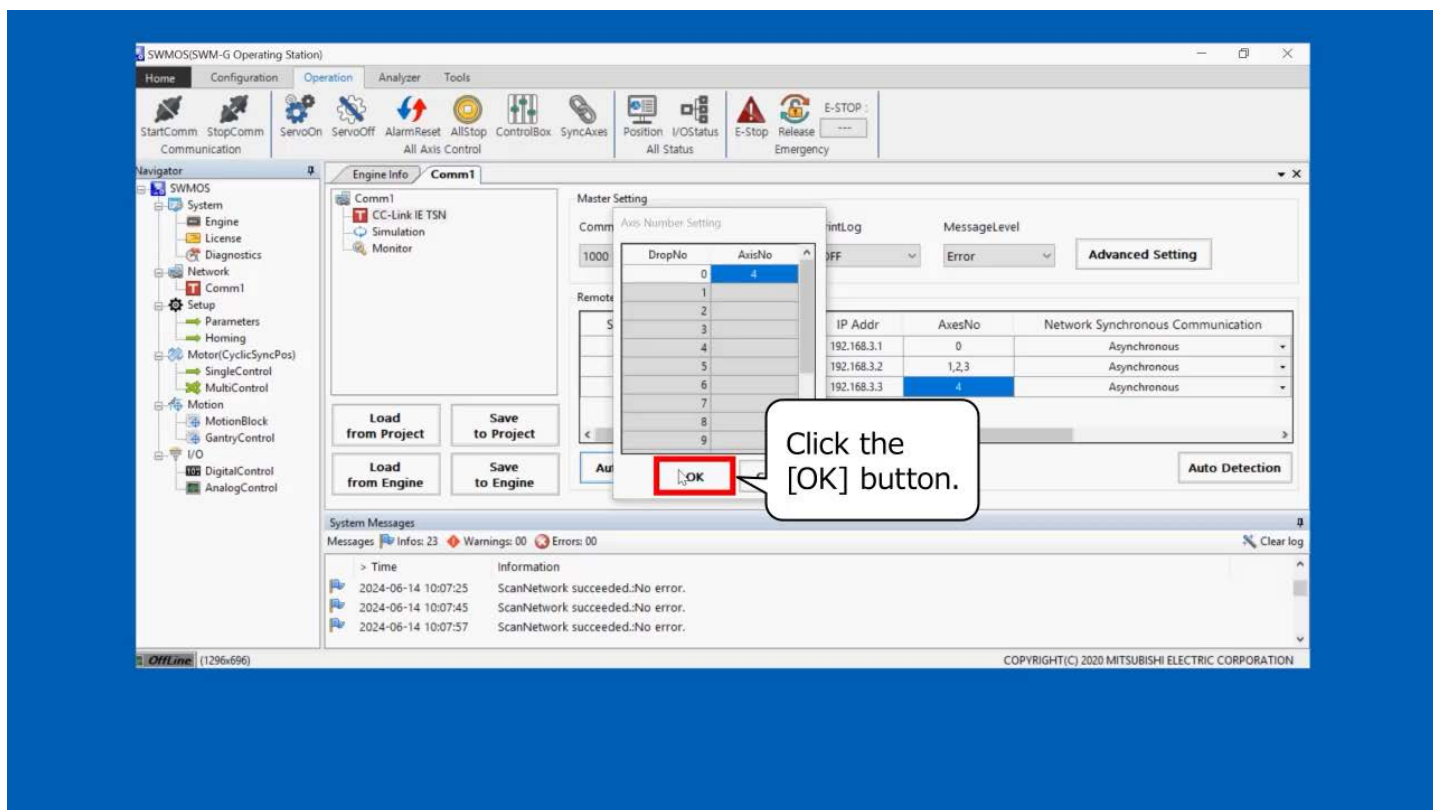
This section describes the remote station setting by the add function. For the procedure, see the video below.



The [Axis Number Setting] window appears.
Set the axis number "4" for DropNo "0".

2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.

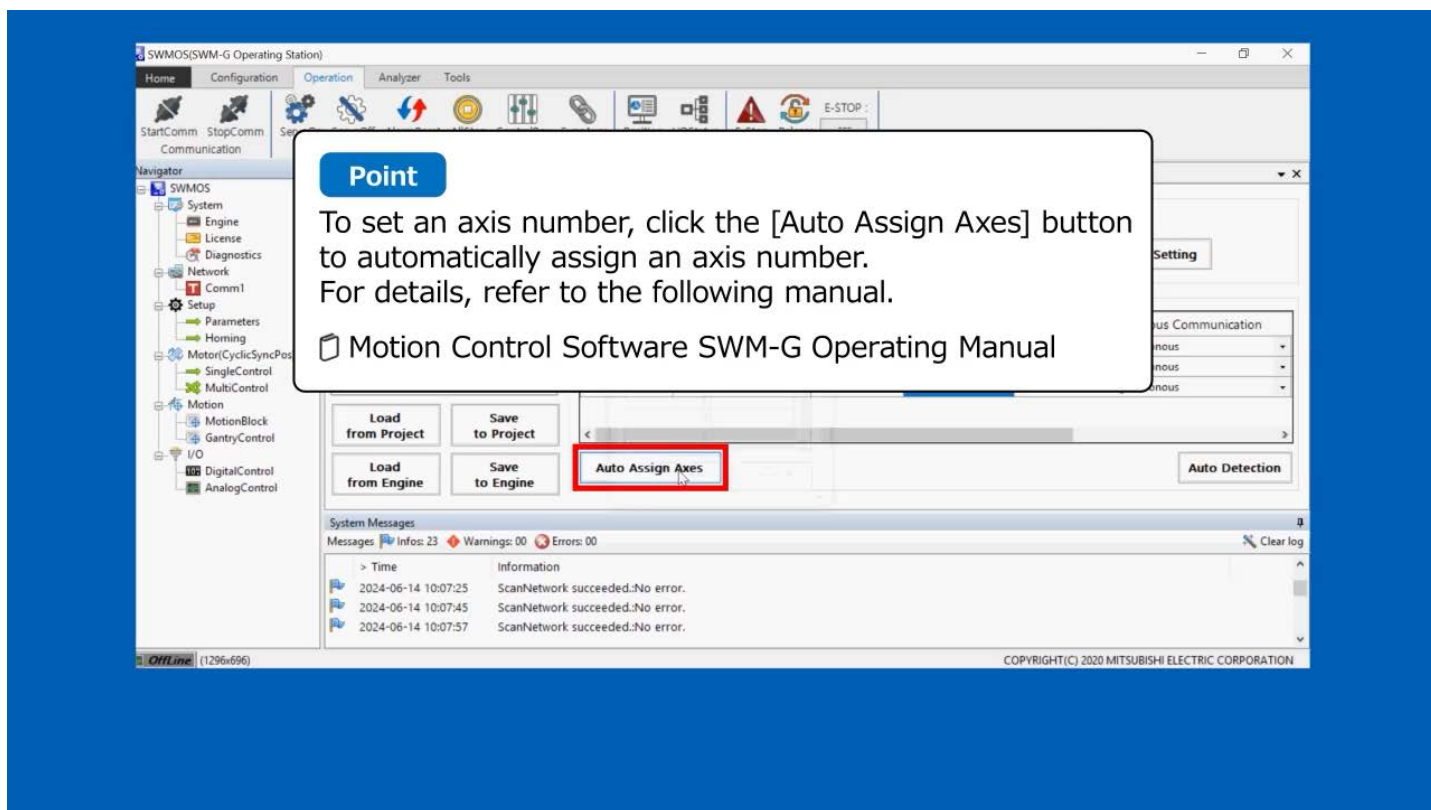
The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window shows the 'Remote Station Setting' section, which includes a table of slave stations. The table has the following data:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-J5-G-RJ	192.168.3.1	0	Asynchronous
1	MR-J5W3-G	192.168.3.2	1,2,3	Asynchronous
2	MR-J5-G	192.168.3.3	4	Asynchronous

A callout box highlights the 'Auto Assign Axes' button and the 'AxesNo' column. The text in the callout box reads: "The set axis number is displayed in the [AxesNo] column."

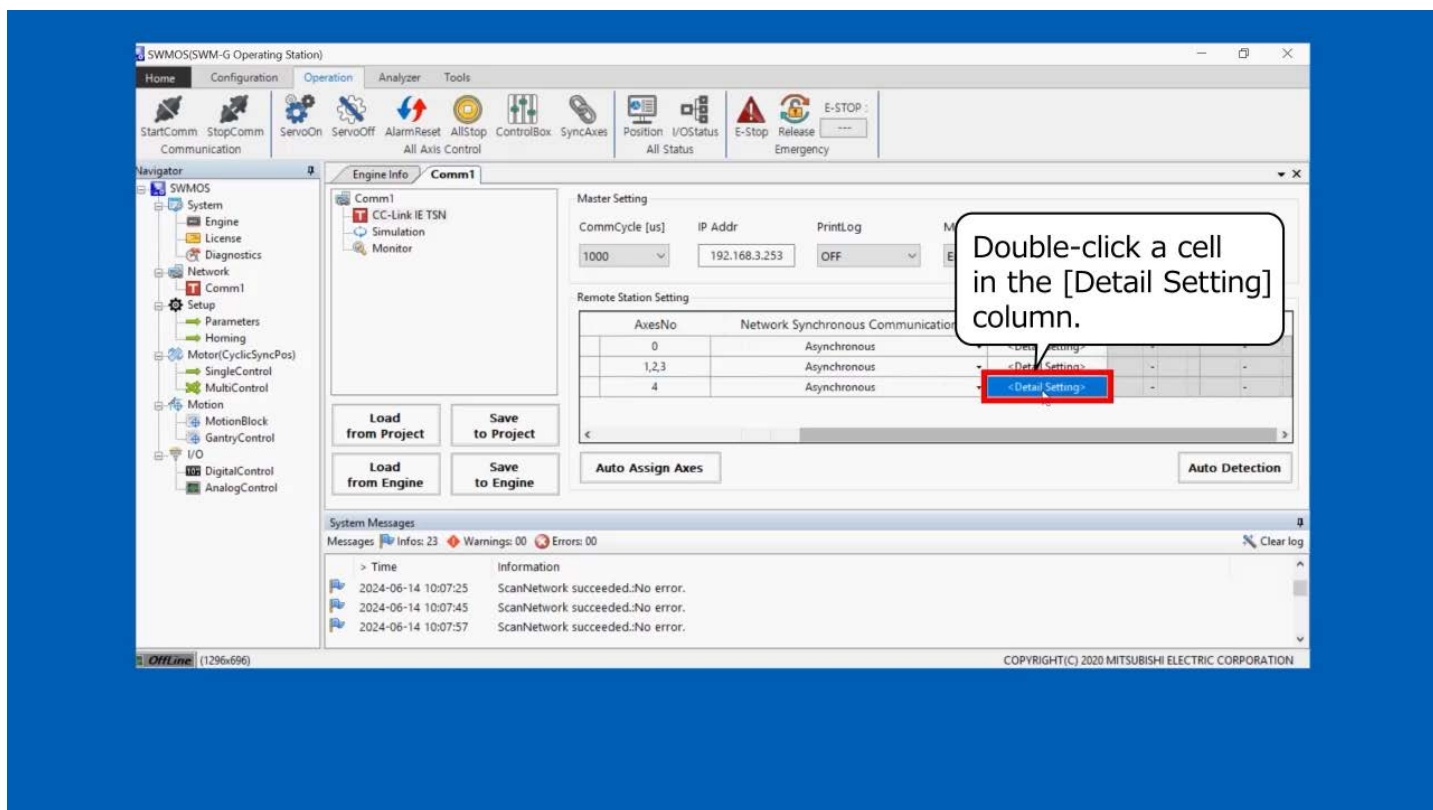
2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



2.4.3

Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.

The [Detail Setting] window appears. In this window, specify PDO (data) to be sent and received via cyclic communication according to the mode to be used.

Index	Sub	Name	Data Type	Offset
0x1D02	0x01	Watchdog counter UL 1	UNSIGNED 16	0
0x6061	0x00	Modes of operation display	INTEGER 8	2
0x6064	0x00	Position actual value	INTEGER 32	3
0x606C	0x00	Velocity actual value	INTEGER 32	7
0x60F4	0x00	Following error actual value	INTEGER 32	11
0x6041	0x00	Statusword	UNSIGNED 16	15
0x6077	0x00	Torque actual value	INTEGER 16	17

2.4.3 Remote station setting by add function

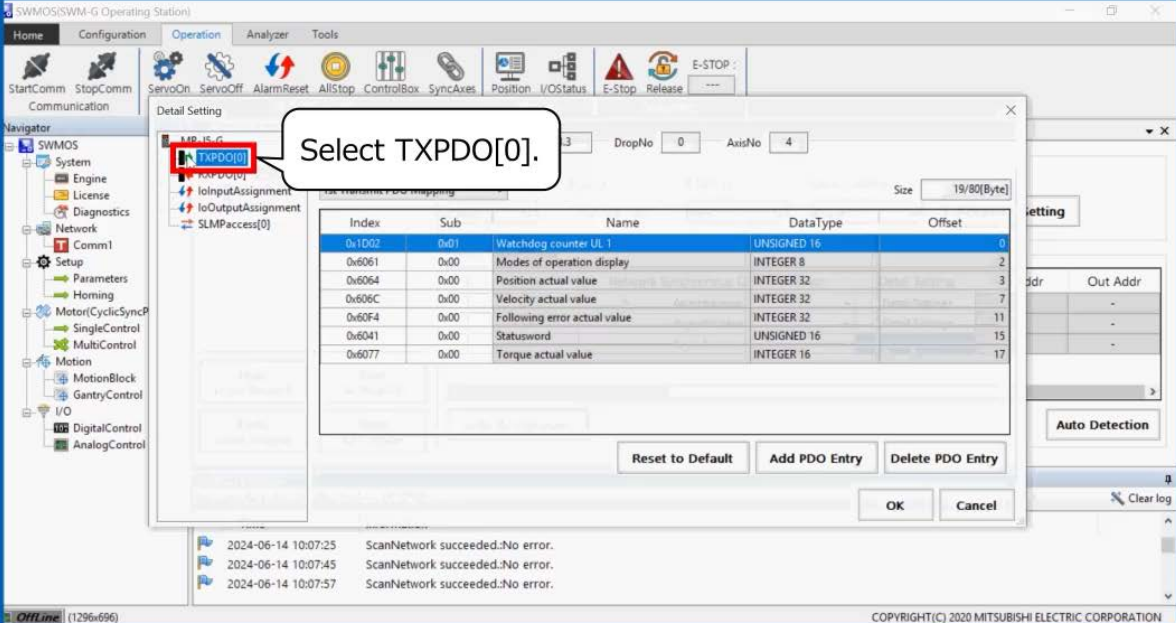
This section describes the remote station setting by the add function. For the procedure, see the video below.

In this description, for TXPDO (feedback communication) and RXPDO (command communication), select and specify the data to be sent and received from four default PDO mappings.

Index	Sub	Name	DataType	Offset
0x1D02	0x01	Watchdog counter UL 1	UNSIGNED 16	0
0x6061	0x00	Modes of operation display	INTEGER 8	2
0x6064	0x00	Position actual value	INTEGER 32	3
0x606C	0x00	Velocity actual value	INTEGER 32	7
0x60F4	0x00	Following error actual value	INTEGER 32	11
0x6041	0x00	Statusword	UNSIGNED 16	15
0x6077	0x00	Torque actual value	INTEGER 16	17

2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



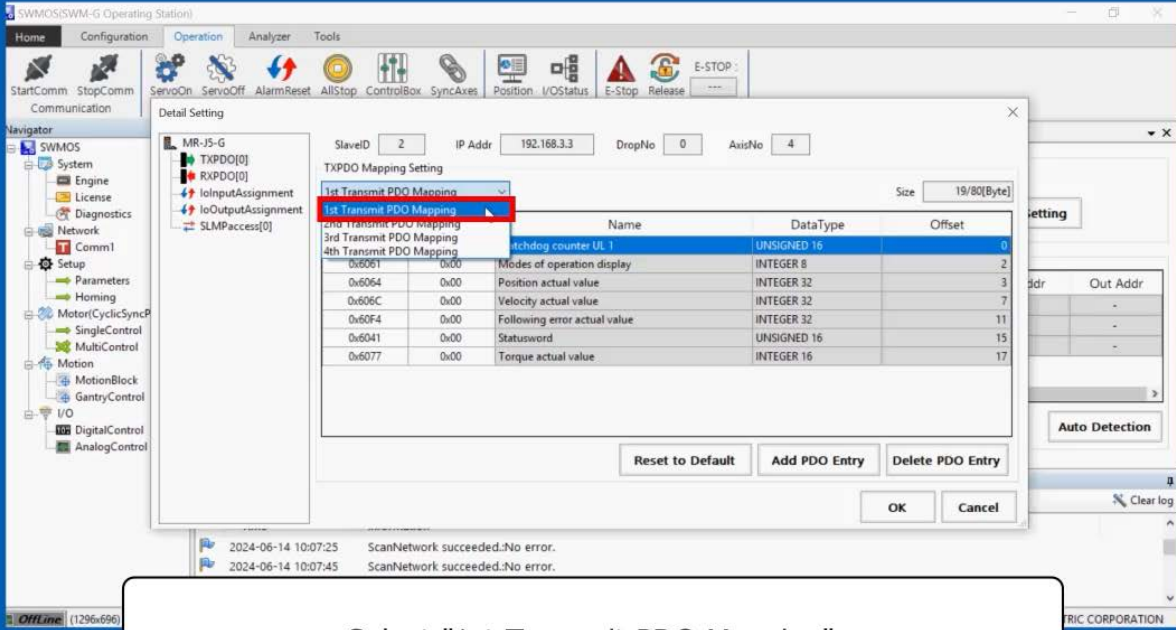
The screenshot displays the SWMOS (SWM-G Operating Station) software interface. A 'Detail Setting' dialog box is open, showing a table of PDO entries. A callout box points to the 'TXPDO[0]' entry in the Navigator tree on the left, with the text 'Select TXPDO[0]'. The table in the dialog box lists the following entries:

Index	Sub	Name	Data Type	Offset
0x1D02	0x01	Watchdog counter UL 1	UNSIGNED 16	0
0x6061	0x00	Modes of operation display	INTEGER 8	2
0x6064	0x00	Position actual value	INTEGER 32	3
0x606C	0x00	Velocity actual value	INTEGER 32	7
0x60F4	0x00	Following error actual value	INTEGER 32	11
0x6041	0x00	Statusword	UNSIGNED 16	15
0x6077	0x00	Torque actual value	INTEGER 16	17

The dialog box also includes buttons for 'Reset to Default', 'Add PDO Entry', 'Delete PDO Entry', 'OK', and 'Cancel'. The status bar at the bottom shows 'Offline (1296x696)' and 'COPYRIGHT(C) 2020 MITSUBISHI ELECTRIC CORPORATION'.

2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



The screenshot shows the SWMOS (SWMOS/SWM-G Operating Station) software interface. A 'Detail Setting' dialog box is open, displaying the configuration for the '1st Transmit PDO Mapping'. The dialog includes fields for SlaveID (2), IP Addr (192.168.3.3), DropNo (0), and AxisNo (4). The 'TXPDO Mapping Setting' section shows a pull-down menu with '1st Transmit PDO Mapping' selected. Below this, a table lists the mapping details:

	Name	Data Type	Offset
atchdog counter UL 1		UNSIGNED 16	0
0x6061	0x00	Modes of operation display	2
0x6064	0x00	Position actual value	3
0x606C	0x00	Velocity actual value	7
0x60F4	0x00	Following error actual value	11
0x6041	0x00	Statusword	15
0x6077	0x00	Torque actual value	17

Buttons at the bottom of the dialog include 'Reset to Default', 'Add PDO Entry', 'Delete PDO Entry', 'OK', and 'Cancel'. A status bar at the bottom shows two successful network scan messages from 2024-06-14.

Select "1st Transmit PDO Mapping" from the pull-down list of [TXPDO Mapping Setting].

2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.

Detail Setting

SlaveID: 2 IP Addr: 192.168.3.3 DropNo: 0 AxisNo: 4

TXPDO Mapping Setting

1st Transmit PDO Mapping Size: 19/80[Byte]

Index	Sub	Name	DataType	Offset
0x1D02	0x01	Watchdog counter UL 1	UNSIGNED 16	0
0x6061	0x00	Modes of operation display	INTEGER 8	2
0x6064	0x00	Position actual value	INTEGER 32	3
0x606C	0x00	Velocity actual value	INTEGER 32	7
0x60F4	0x00	Following error actual value	INTEGER 32	11
0x6041	0x00	Statusword	UNSIGNED 16	15
0x6077	0x00	Torque actual value	INTEGER 16	17

Reset to Default Add PDO Entry Delete PDO Entry

OK Cancel

2024-06-14 10:07:25 ScanNetwork succeeded.No error.
2024-06-14 10:07:45 ScanNetwork succeeded.No error.

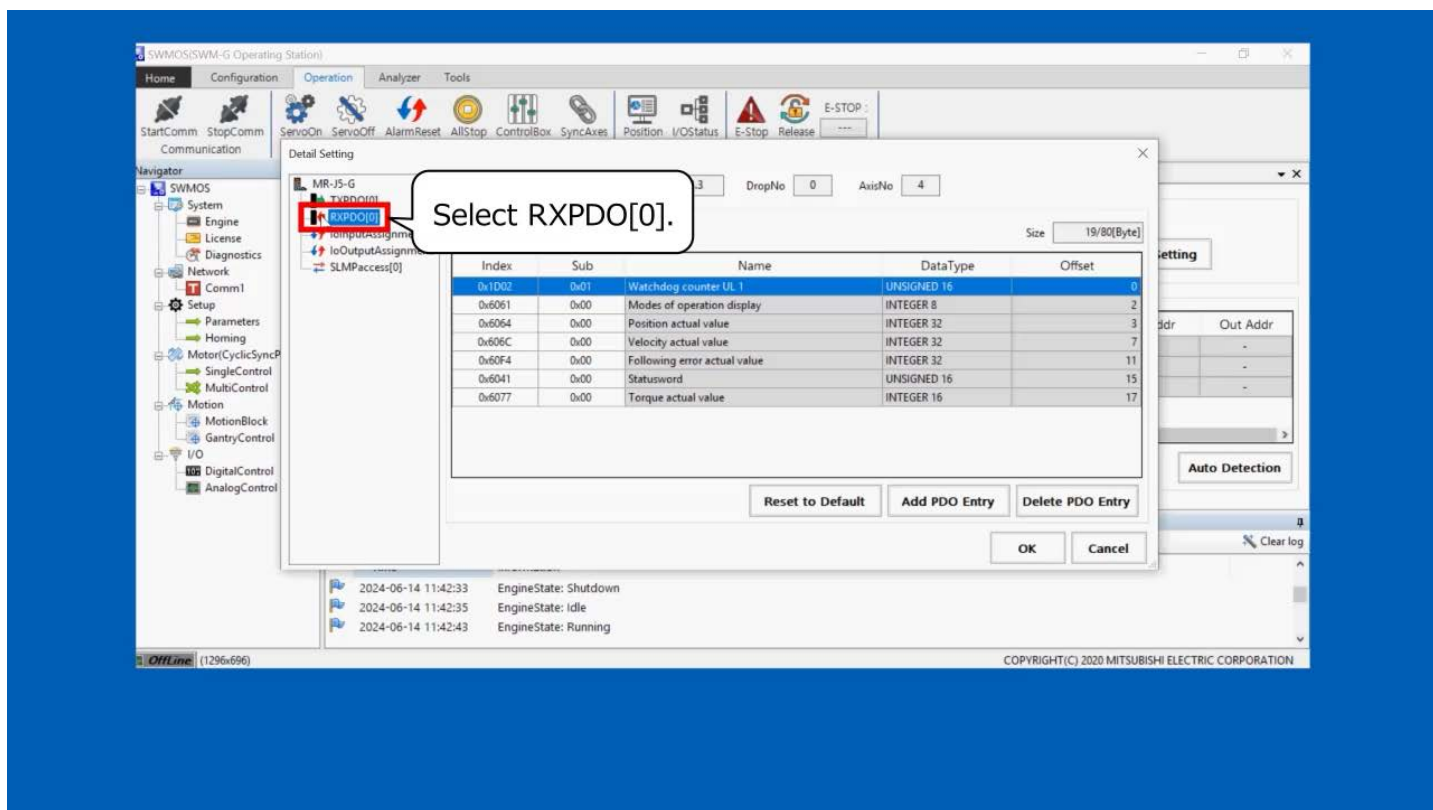
Offline (1296x696)

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For RXPDO, configure the setting in the same way.

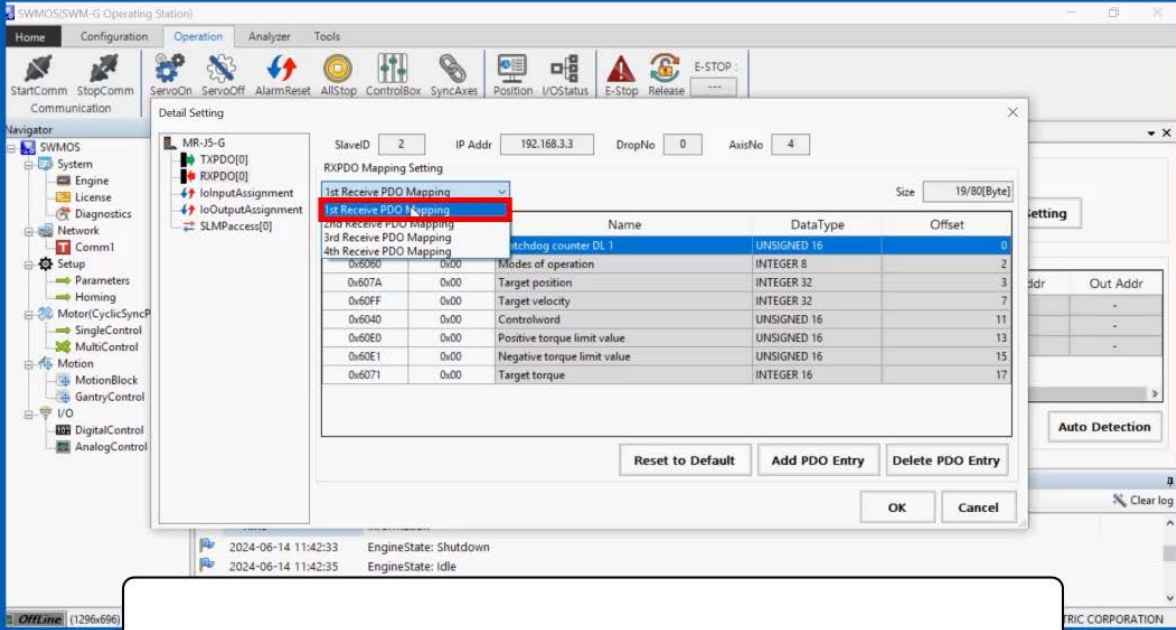
2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



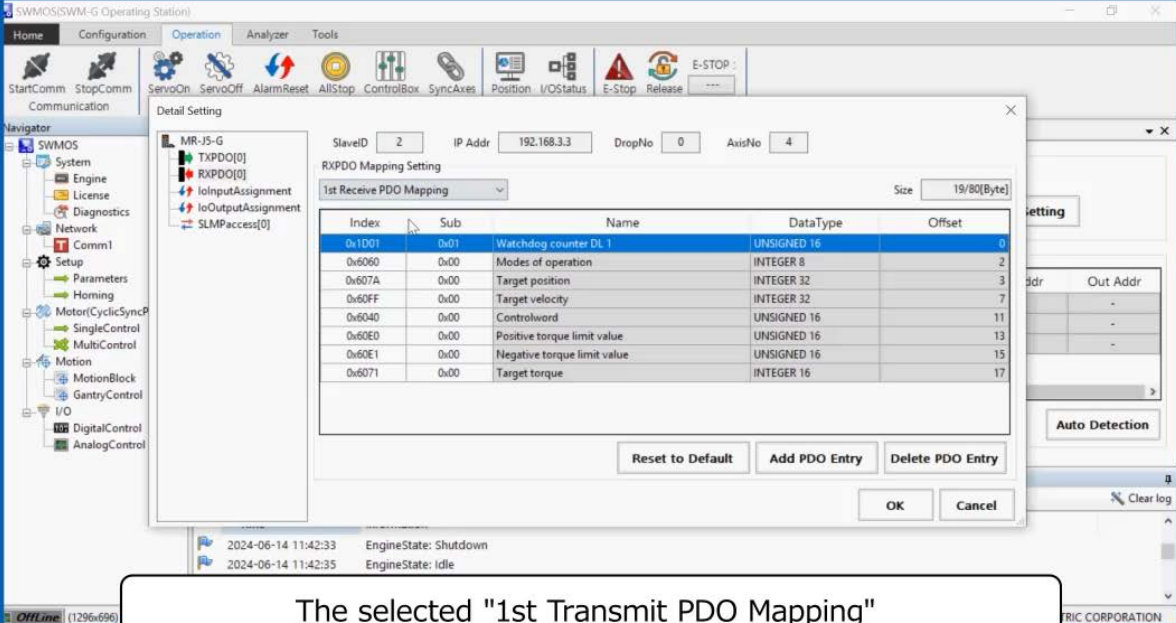
The screenshot shows the 'Detail Setting' dialog box for RXPDO Mapping Setting. The '1st Receive PDO Mapping' is selected in the pull-down list. The table below lists the parameters and their data types and offsets.

	Name	Data Type	Offset
atchdog counter DL 1		UNSIGNED 16	0
0x6060	Modes of operation	INTEGER 8	2
0x607A	Target position	INTEGER 32	3
0x60FF	Target velocity	INTEGER 32	7
0x6040	Controlword	UNSIGNED 16	11
0x60E0	Positive torque limit value	UNSIGNED 16	13
0x60E1	Negative torque limit value	UNSIGNED 16	15
0x6071	Target torque	INTEGER 16	17

Select "1st Receive PDO Mapping" from the pull-down list of [RXPDO Mapping Setting].

2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



The screenshot shows the 'Detail Setting' dialog box in the SWMOS software. The 'RXPDO Mapping Setting' section is active, displaying a table of PDO mappings for the selected '1st Receive PDO Mapping'. The table includes columns for Index, Sub, Name, DataType, and Offset. The selected mapping is 'Watchdog counter DL 1' at index 0x1D01, sub 0x01, with a data type of UNSIGNED 16 and an offset of 0.

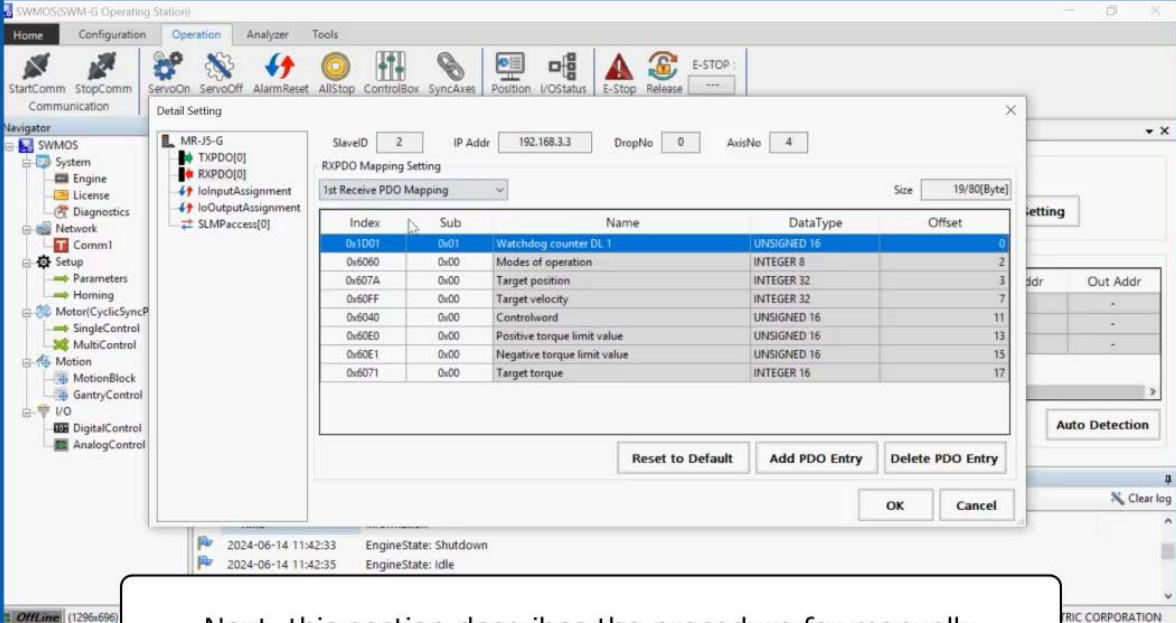
Index	Sub	Name	DataType	Offset
0x1D01	0x01	Watchdog counter DL 1	UNSIGNED 16	0
0x6060	0x00	Modes of operation	INTEGER 8	2
0x607A	0x00	Target position	INTEGER 32	3
0x60FF	0x00	Target velocity	INTEGER 32	7
0x6040	0x00	Controlword	UNSIGNED 16	11
0x60E0	0x00	Positive torque limit value	UNSIGNED 16	13
0x60E1	0x00	Negative torque limit value	UNSIGNED 16	15
0x6071	0x00	Target torque	INTEGER 16	17

Buttons at the bottom of the dialog include 'Reset to Default', 'Add PDO Entry', 'Delete PDO Entry', 'OK', and 'Cancel'. The background shows the SWMOS main interface with a tree view on the left and a status bar at the bottom.

The selected "1st Transmit PDO Mapping" and "1st Receive PDO Mapping" are PDO mappings suitable for the cyclic control mode. Now you have selected the PDO mappings.

2.4.3 Remote station setting by add function

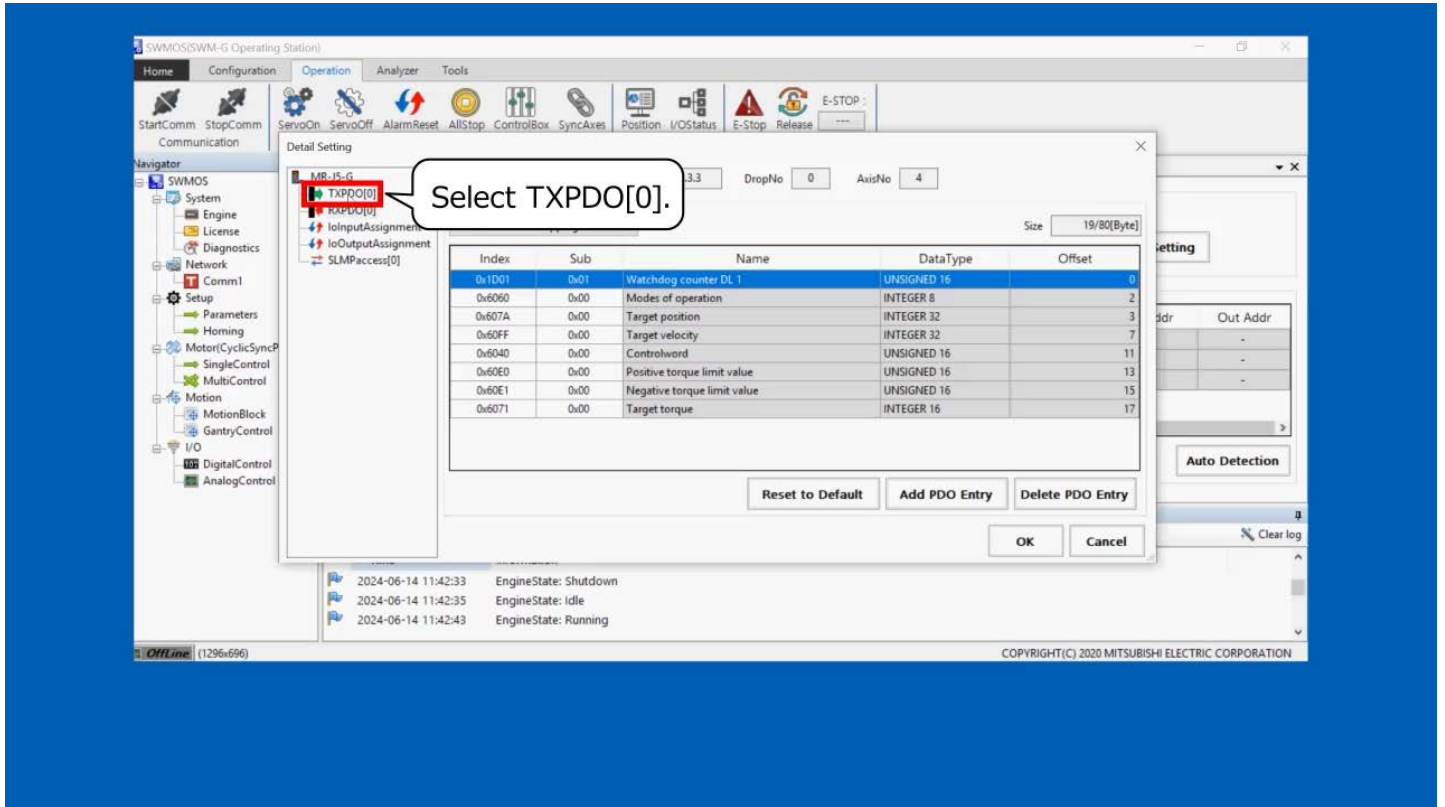
This section describes the remote station setting by the add function. For the procedure, see the video below.



Next, this section describes the procedure for manually adding a PDO object to the selected PDO mapping. In this case, add "Current alarm" to TXPDO.

2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.

Detail Setting

SlaveID: 2 IP Addr: 192.168.3.3 DropNo: 0 AxisNo: 4

TXPDO Mapping Setting

1st Transmit PDO Mapping Size: 19/80[Byte]

Index	Sub	Name	DataType	Offset
0x1D02	0x01	Watchdog counter UL 1	UNSIGNED 16	0
0x6061	0x00	Modes of operation display	INTEGER 8	2
0x6064	0x00	Position actual value	INTEGER 32	3
0x606C	0x00	Velocity actual value	INTEGER 32	7
0x60F4	0x00	Following error actual value	INTEGER 32	11
0x6041	0x00	Statusword	UNSIGNED 16	15
0x6077	0x00	Torque actual value	INTEGER 16	17

Reset to Default Add PDO Entry OK Cancel

Click the [Add PDO Entry] button.

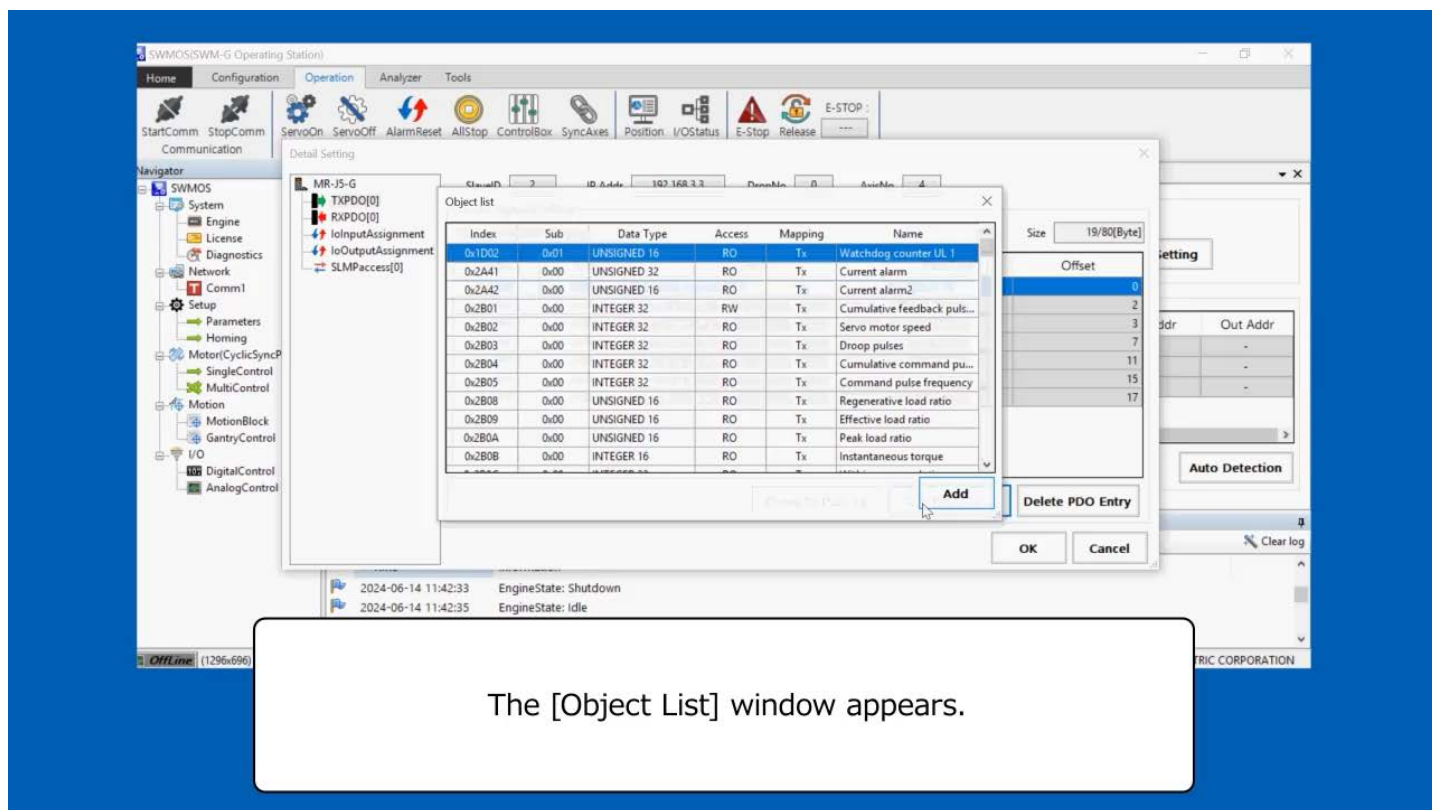
2024-06-14 11:42:33 EngineState: Shutdown
2024-06-14 11:42:35 EngineState: Idle
2024-06-14 11:42:43 EngineState: Running

Offline (1296x696) COPYRIGHT(C) 2020 MITSUBISHI ELECTRIC CORPORATION

2.4.3

Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.

The screenshot shows the SWMOS (SWM-G Operating Station) software interface. The 'Object list' dialog box is open, displaying a table of parameters. The 'Current alarm' entry is highlighted in blue. A callout bubble points to this entry with the text 'Select "Current alarm."'. The table contains the following data:

Index	Sub	Data Type	Access	Mapping	Name
0x1D00	0x00	UNSIGNED 16	RO	Tx	Watchdog counter III.1
0x2A41	0x00	UNSIGNED 32	RO	Tx	Current alarm
0x2A42	0x00	UNSIGNED 16	RO	Tx	Current alarm2
0x2B01	0x00	INTEGER 32	RW	Tx	Cumulative feedback puls...
0x2B02	0x00	INTEGER 32	RO	Tx	Servo motor speed
0x2B03	0x00	INTEGER 32	RO	Tx	Droop pulses
0x2B04	0x00	INTEGER 32	RO	Tx	Cumulative command pu...
0x2B05	0x00	INTEGER 32	RO	Tx	Command pulse frequency
0x2B08	0x00	UNSIGNED 16	RO	Tx	Regenerative load ratio
0x2B09	0x00	UNSIGNED 16	RO	Tx	Effective load ratio
0x2B0A	0x00	UNSIGNED 16	RO	Tx	Peak load ratio
0x2B0B	0x00	INTEGER 16	RO	Tx	Instantaneous torque

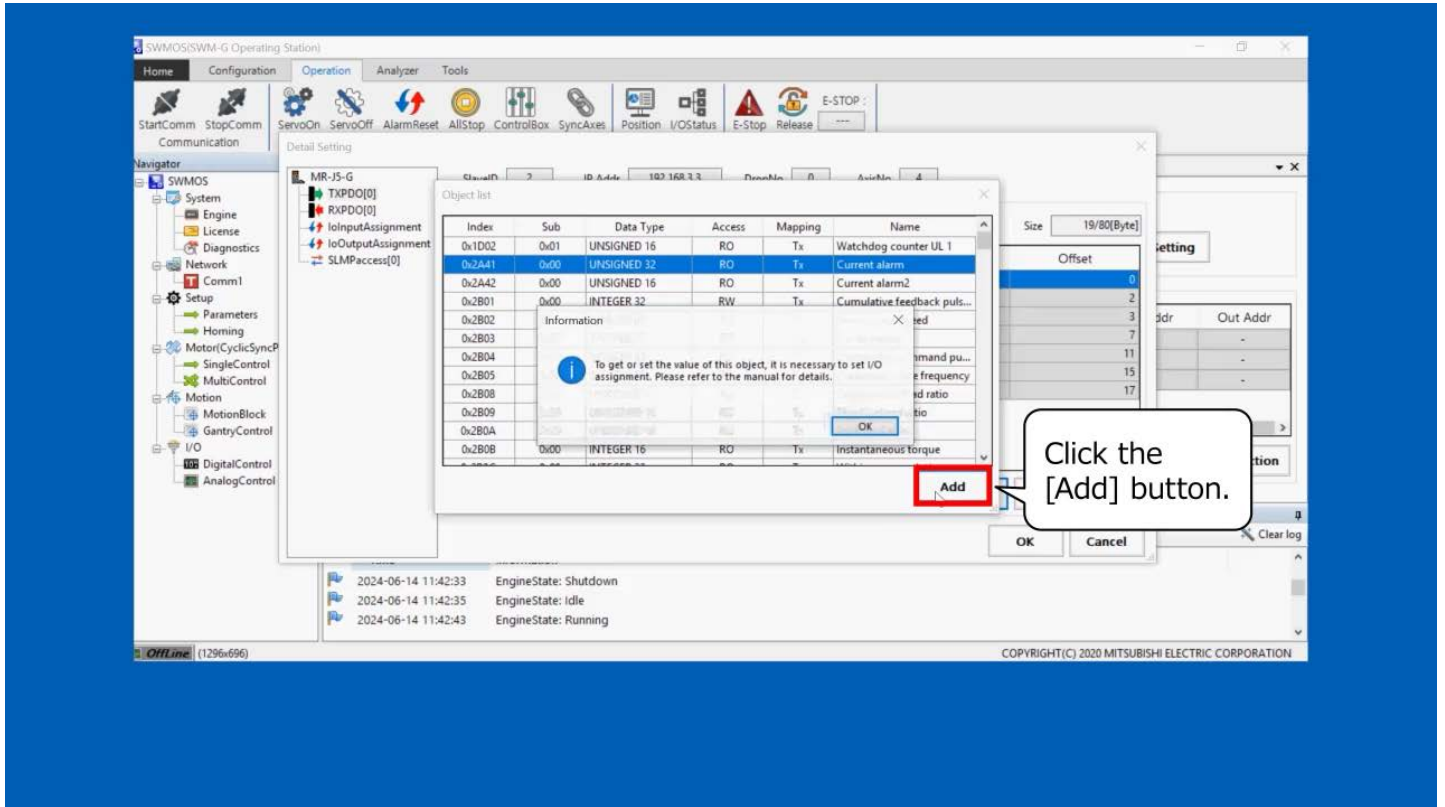
The interface also shows a 'Detail Setting' window for 'MR-J5-G' and a log window at the bottom with the following entries:

- 2024-06-14 11:42:33 EngineState: Shutdown
- 2024-06-14 11:42:35 EngineState: Idle
- 2024-06-14 11:42:43 EngineState: Running

The bottom of the screen displays 'Online (1296x696)' and 'COPYRIGHT(C) 2020 MITSUBISHI ELECTRIC CORPORATION'.

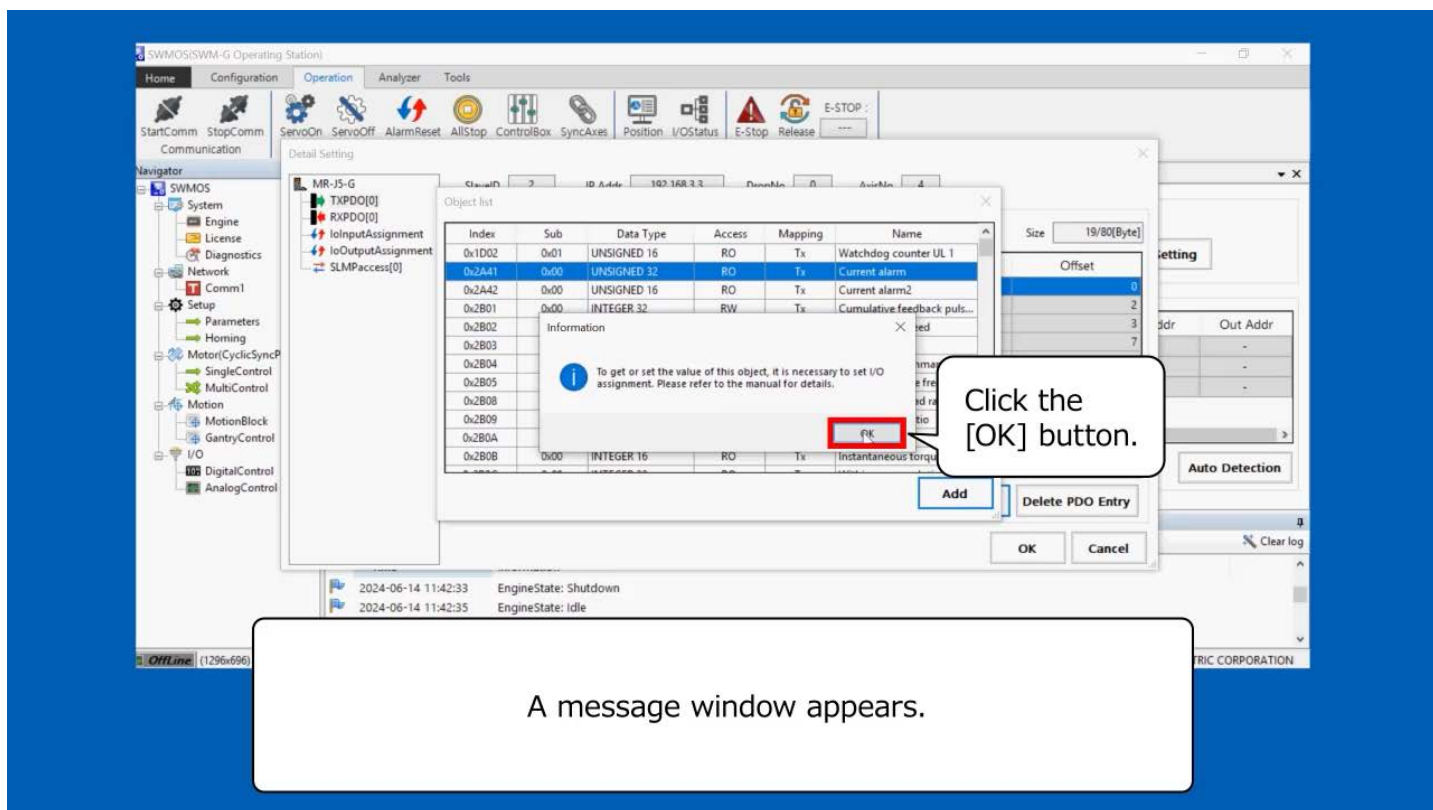
2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



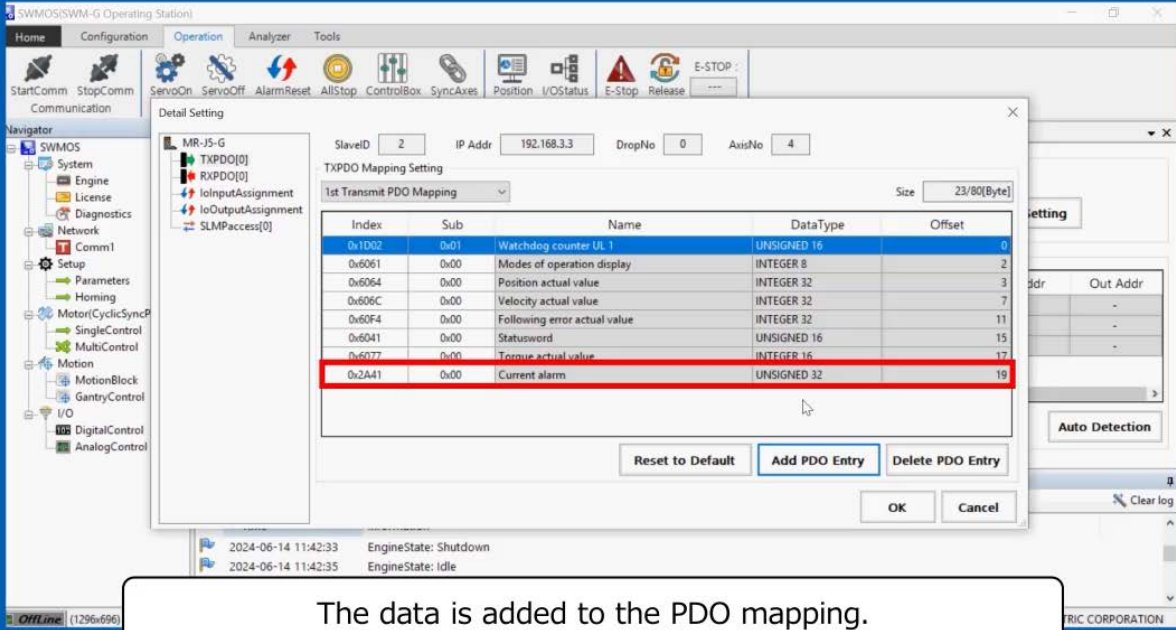
2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



The screenshot shows the 'Detail Setting' dialog box in the SWMOS software. The dialog is titled 'Detail Setting' and contains the following information:

- SlaveID: 2
- IP Addr: 192.168.3.3
- DropNo: 0
- AxisNo: 4
- TXPDO Mapping Setting: 1st Transmit PDO Mapping
- Size: 23/80[Byte]

Index	Sub	Name	DataType	Offset
0x1D02	0x01	Watchdog counter UL 1	UNSIGNED 16	0
0x6061	0x00	Modes of operation display	INTEGER 8	2
0x6064	0x00	Position actual value	INTEGER 32	3
0x606C	0x00	Velocity actual value	INTEGER 32	7
0x60F4	0x00	Following error actual value	INTEGER 32	11
0x6041	0x00	Statusword	UNSIGNED 16	15
0x6077	0x00	Torque actual value	INTEGER 16	17
0x2A41	0x00	Current alarm	UNSIGNED 32	19

Buttons at the bottom of the dialog: Reset to Default, Add PDO Entry, Delete PDO Entry, OK, Cancel.

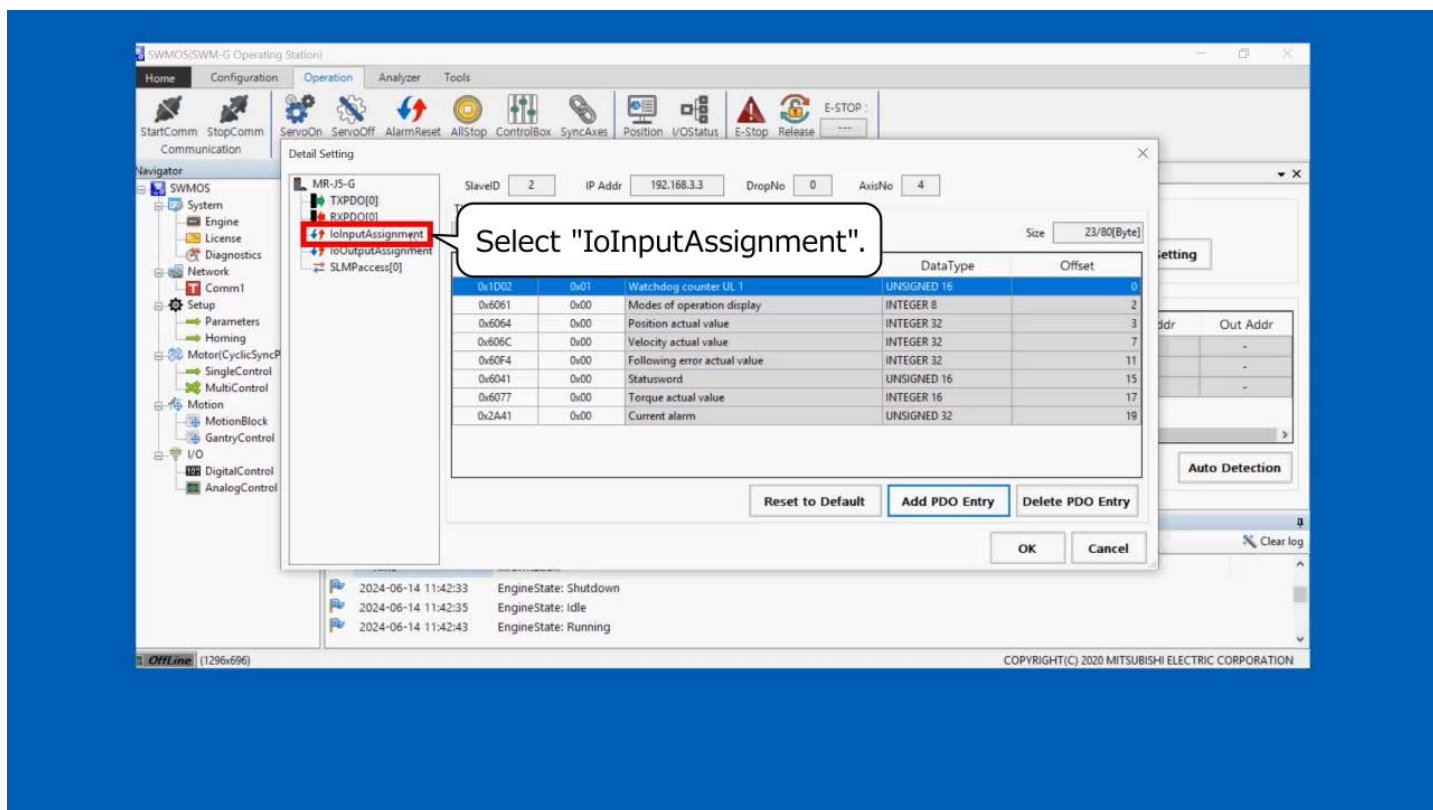
Log entries at the bottom of the window:
2024-06-14 11:42:33 EngineState: Shutdown
2024-06-14 11:42:35 EngineState: Idle

Bottom status bar: Online (1296x696)

The data is added to the PDO mapping.
Next, allow the application to read and write values from/to the added data (Current alarm).
In this case, assign an input address to "Current alarm".

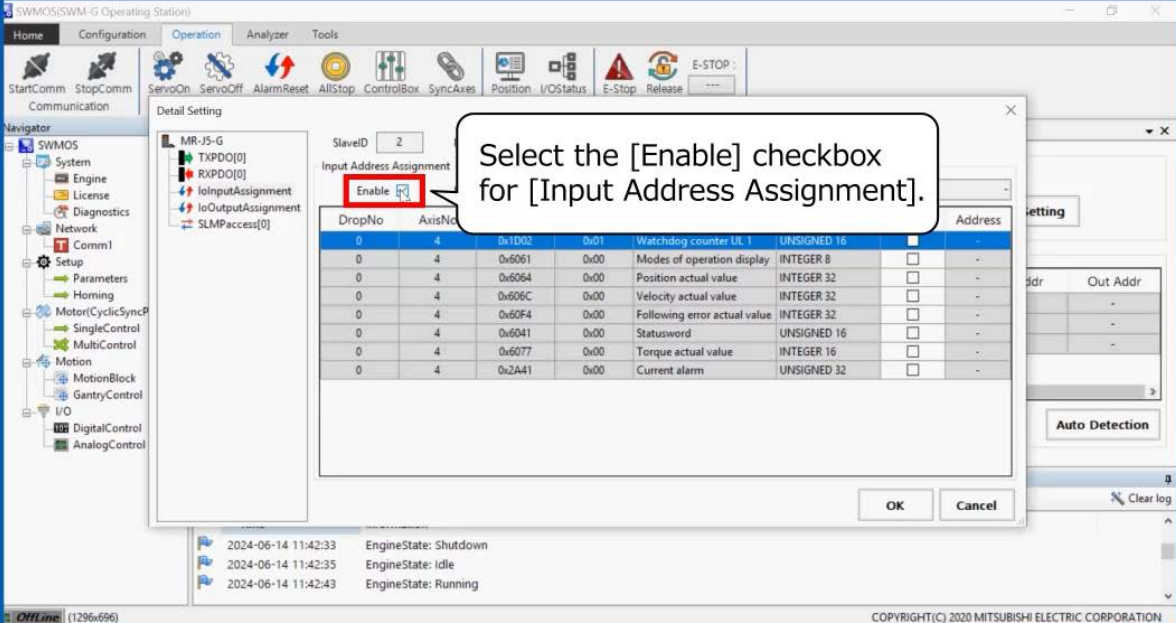
2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



The screenshot shows the SWMOS (SWM-G Operating Station) software interface. A 'Detail Setting' dialog box is open, displaying the 'Input Address Assignment' configuration for SlaveID 2. The 'Enable' checkbox is highlighted with a red box and a callout box containing the text: "Select the [Enable] checkbox for [Input Address Assignment]".

DropNo	AxisNo	Dr1D02	Dr01	Watchdog counter UL1	UNSIGNED 16		Address
0	4	0x6061	0x00	Modes of operation display	INTEGER 8	<input type="checkbox"/>	-
0	4	0x6064	0x00	Position actual value	INTEGER 32	<input type="checkbox"/>	-
0	4	0x606C	0x00	Velocity actual value	INTEGER 32	<input type="checkbox"/>	-
0	4	0x60F4	0x00	Following error actual value	INTEGER 32	<input type="checkbox"/>	-
0	4	0x6041	0x00	Statusword	UNSIGNED 16	<input type="checkbox"/>	-
0	4	0x6077	0x00	Torque actual value	INTEGER 16	<input type="checkbox"/>	-
0	4	0x2A41	0x00	Current alarm	UNSIGNED 32	<input type="checkbox"/>	-

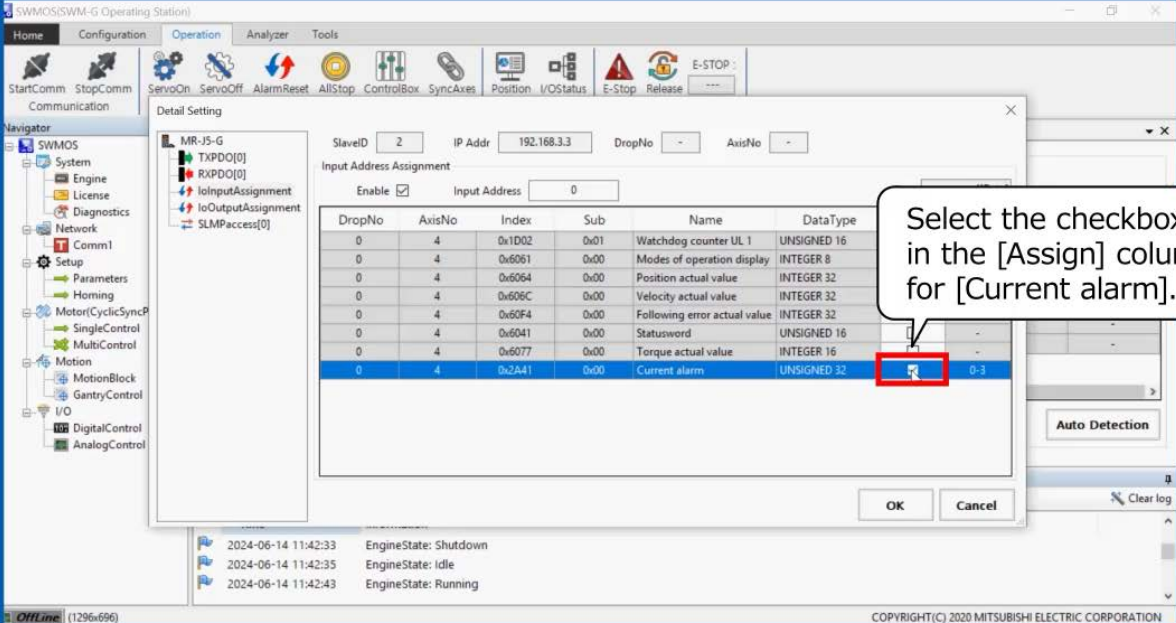
At the bottom of the dialog box, there are 'OK' and 'Cancel' buttons. The background software interface shows a 'Navigator' tree on the left and a 'Log' window at the bottom with the following entries:

- 2024-06-14 11:42:33 EngineState: Shutdown
- 2024-06-14 11:42:35 EngineState: Idle
- 2024-06-14 11:42:43 EngineState: Running

The status bar at the bottom left shows 'Online (1296x696)' and the bottom right shows 'COPYRIGHT(C) 2020 MITSUBISHI ELECTRIC CORPORATION'.

2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



The screenshot shows the 'Detail Setting' dialog box in the SWMOS software. The dialog box is titled 'Detail Setting' and contains the following information:

- SlaveID: 2
- IP Addr: 192.168.3.3
- DropNo: -
- AxisNo: -

The 'Input Address Assignment' section is enabled, and the 'Input Address' is set to 0. The table below lists the assignments:

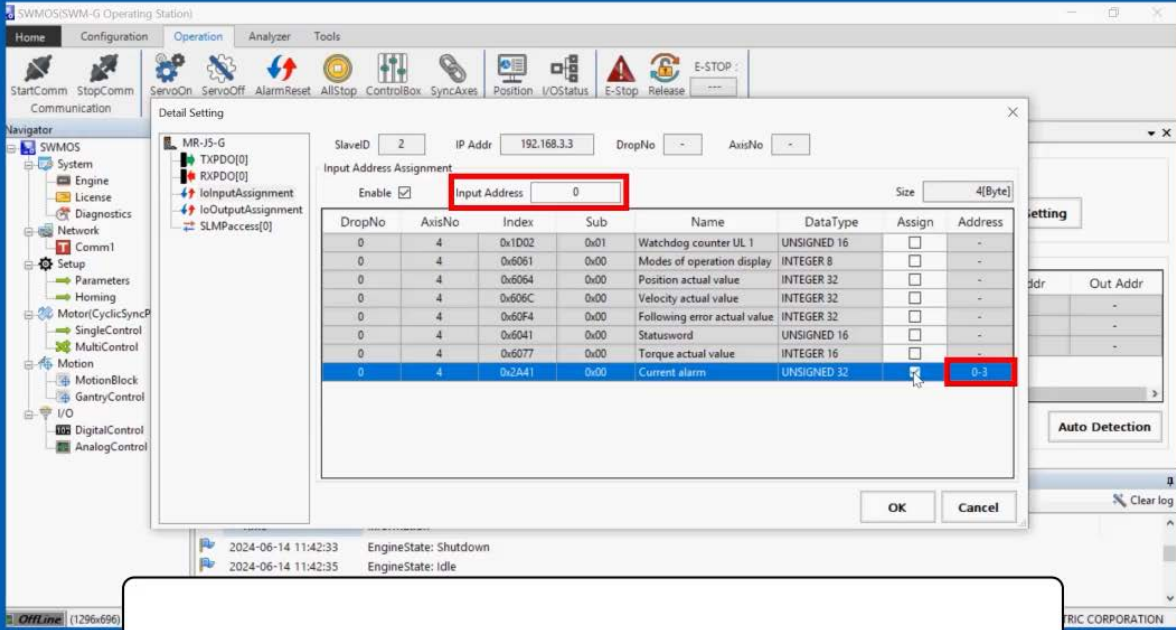
DropNo	AxisNo	Index	Sub	Name	DataType	Assign
0	4	0x1D02	0x01	Watchdog counter UL 1	UNSIGNED 16	<input type="checkbox"/>
0	4	0x6061	0x00	Modes of operation display	INTEGER 8	<input type="checkbox"/>
0	4	0x6064	0x00	Position actual value	INTEGER 32	<input type="checkbox"/>
0	4	0x606C	0x00	Velocity actual value	INTEGER 32	<input type="checkbox"/>
0	4	0x60F4	0x00	Following error actual value	INTEGER 32	<input type="checkbox"/>
0	4	0x6041	0x00	Statusword	UNSIGNED 16	<input type="checkbox"/>
0	4	0x6077	0x00	Torque actual value	INTEGER 16	<input type="checkbox"/>
0	4	0x2A41	0x00	Current alarm	UNSIGNED 32	<input checked="" type="checkbox"/>

The 'Assign' column for the 'Current alarm' row is highlighted with a red box. A callout bubble points to this checkbox with the text: 'Select the checkbox in the [Assign] column for [Current alarm].'

At the bottom of the dialog box, there are 'OK' and 'Cancel' buttons. The background shows the SWMOS main interface with a 'Navigator' on the left and a status bar at the bottom.

2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



The screenshot shows the 'Detail Setting' dialog box in the SWMOS software. The 'Input Address Assignment' section is active, with the 'Input Address' field set to '0'. The table below lists various assignments:

DropNo	AxisNo	Index	Sub	Name	DataType	Assign	Address
0	4	0x1D02	0x01	Watchdog counter UL 1	UNSIGNED 16	<input type="checkbox"/>	-
0	4	0x6061	0x00	Modes of operation display	INTEGER 8	<input type="checkbox"/>	-
0	4	0x6064	0x00	Position actual value	INTEGER 32	<input type="checkbox"/>	-
0	4	0x606C	0x00	Velocity actual value	INTEGER 32	<input type="checkbox"/>	-
0	4	0x60F4	0x00	Following error actual value	INTEGER 32	<input type="checkbox"/>	-
0	4	0x6041	0x00	Statusword	UNSIGNED 16	<input type="checkbox"/>	-
0	4	0x6077	0x00	Torque actual value	INTEGER 16	<input type="checkbox"/>	-
0	4	0x2A41	0x00	Current alarm	UNSIGNED 32	<input type="checkbox"/>	0-3

Four bytes were assigned with "0" in the input address field as the first address.

2.4.3

Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.

Detail Setting

SlaveID: 2 IP Addr: 192.168.3.3 DropNo: - AxisNo: -

Input Address Assignment

Enable: Input Address: 0 Size: 4[Byte]

DropNo	AxisNo	Index	Sub	Name	DataType	Assign	Address
0	4	0x1D02	0x01	Watchdog counter UL 1	UNSIGNED 16	<input type="checkbox"/>	-
0	4	0x6061	0x00	Modes of operation display	INTEGER 8	<input type="checkbox"/>	-
0	4	0x6064	0x00	Position actual value	INTEGER 32	<input type="checkbox"/>	-
0	4	0x606C	0x00	Velocity actual value	INTEGER 32	<input type="checkbox"/>	-
0	4	0x60F4	0x00	Following error actual value	INTEGER 32	<input type="checkbox"/>	-
0	4	0x6041	0x00	Statusword	UNSIGNED 16	<input type="checkbox"/>	-
0	4	0x6077	0x00	Torque actual value	INTEGER 16	<input type="checkbox"/>	-
0	4	0x2A41	0x00	Current alarm	UNSIGNED 32	<input checked="" type="checkbox"/>	0-3

OK Cancel

Click the [Cancel] button.

In this description, cancel the setting because the input address assignment is not used. When you use the input address assignment, click the [OK] button.

2.4.3

Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.

The screenshot shows the SWMOS (SWM-G Operating Station) software interface. The 'Remote Station Setting' table is highlighted, showing the following data:

SlaveID	Model	IP Addr	Axis	Mode
0	MR-J5-G-RJ	192.168.3.1	0	Asynchronous
1	MR-J5W3-G	192.168.3.2	1, 2, 3	Asynchronous
2	MR-J5-G	192.168.3.3	4	Asynchronous

A callout box points to the row with SlaveID 2, containing the text: "Select the servo amplifier that was manually added and right-click it."

Another callout box at the bottom of the screenshot contains the text: "In this description, delete the servo amplifier that was manually added because it is not used. When you use the servo amplifier, do not delete it."

2.4.3

Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.

The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The 'Remote Station Setting' table is visible, listing slave stations with their IDs, models, IP addresses, and axis configurations. A context menu is open over the second row (SlaveID 1), with the 'Delete' option highlighted. A callout box points to this option with the text 'Click [Delete].'. Below the table, a 'System Messages' panel shows recent engine status updates.

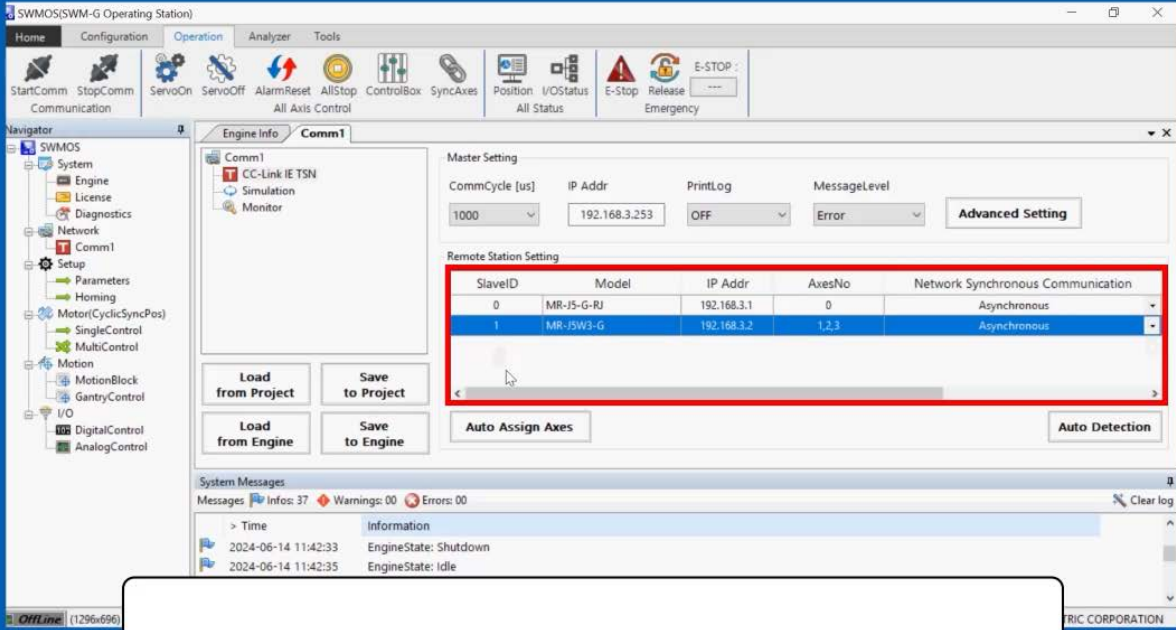
SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-J5-G-RJ	192.168.3.1	0	Asynchronous
1	MR-J5W3-G	192.168.3.2	1,2,3	Asynchronous

System Messages
Messages: Infos: 37 Warnings: 00 Errors: 00
2024-06-14 11:42:33 EngineState: Shutdown
2024-06-14 11:42:35 EngineState: Idle

In this description, delete the servo amplifier that was manually added because it is not used. When you use the servo amplifier, do not delete it.

2.4.3 Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



The screenshot shows the SWMOS (SWM-G Operating Station) software interface. The 'Remote Station Setting' window is open, displaying a table with the following data:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-J5-G-RJ	192.168.3.1	0	Asynchronous
1	MR-J5W3-G	192.168.3.2	1,2,3	Asynchronous

Below the table, there are buttons for 'Auto Assign Axes' and 'Auto Detection'. The 'Master Setting' section includes fields for 'CommCycle [us]' (1000), 'IP Addr' (192.168.3.253), 'PrintLog' (OFF), and 'MessageLevel' (Error). The 'System Messages' panel at the bottom shows a log of engine state changes:

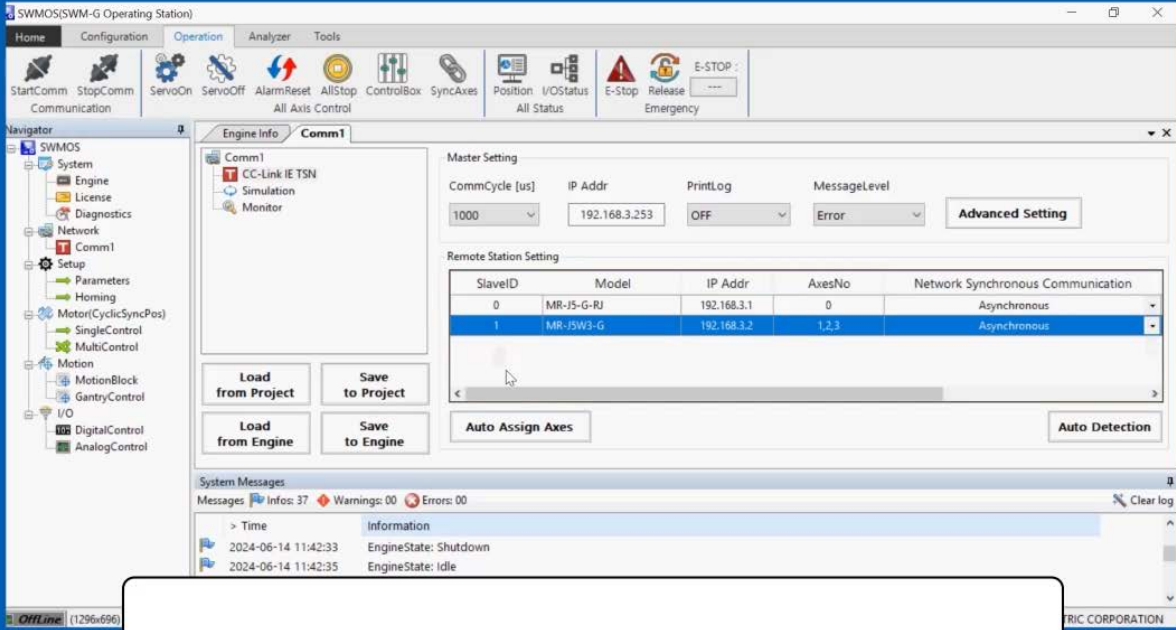
```
> Time Information
2024-06-14 11:42:33 EngineState: Shutdown
2024-06-14 11:42:35 EngineState: Idle
```

The remote station setting window returns to the state at the beginning of this section.

2.4.3

Remote station setting by add function

This section describes the remote station setting by the add function. For the procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and features a menu bar with "Home", "Configuration", "Operation", "Analyzer", and "Tools". Below the menu bar is a toolbar with various icons for functions like "StartComm", "StopComm", "ServoOn", "ServoOff", "AlarmReset", "AllStop", "ControlBox", "SyncAxes", "Position", "I/OStatus", "E-Stop", "Release", and "Emergency".

The "Engine Info" window is open, showing the "Comm1" configuration. The "Master Setting" section includes fields for "CommCycle [us]" (set to 1000), "IP Addr" (192.168.3.253), "PrintLog" (OFF), and "MessageLevel" (Error). There is an "Advanced Setting" button next to these fields.

The "Remote Station Setting" section contains a table with the following data:

SlaveID	Model	IP Addr	AxesNo	Network Synchronous Communication
0	MR-JS-G-RJ	192.168.3.1	0	Asynchronous
1	MR-JS3-G	192.168.3.2	1,2,3	Asynchronous

Below the table are buttons for "Auto Assign Axes" and "Auto Detection". There are also "Load from Project", "Save to Project", "Load from Engine", and "Save to Engine" buttons.

The "System Messages" window at the bottom shows a log of messages with 37 info messages, 0 warnings, and 0 errors. The log entries are:

- 2024-06-14 11:42:33 EngineState: Shutdown
- 2024-06-14 11:42:35 EngineState: Idle

A white callout box with a black border is overlaid on the bottom center of the screenshot, containing the text "Go to the next page."

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen.

For the parameter setting procedure, see the video below.

Click the play button at the lower left of the screen.

From the navigation window on the [SWMOS] screen, select [SWMOS] → [Setup] → [Parameters].

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

The screenshot shows the SWMOS (SWM-G Operating Station) software interface. The main window displays the 'Parameters' configuration screen for 11 axes (Axis0 to Axis10). The interface includes a top toolbar with various control buttons, a left-hand navigation tree, and a main parameter table. The 'Parameters' tab is selected, and the 'Detailed' view is active. The table lists parameters such as Axis Command Mode, Gear Ratio Numerator/Denominator, Direction, In Position Width, Home Type, Home Direction, Homing Vel. Fast, and Homing Vel. Fast Acc. for each axis. A text box at the bottom of the screenshot provides instructions on how to navigate to the Parameters screen from the SWMOS menu.

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	1	1	1	1	1	1	1	1	1	1	1
Gear Ratio Denominator	1	1	1	1	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

From the navigation window on the [SWMOS] screen, select [SWMOS] → [Setup] → [Parameters].

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

The [Essential] tab is selected.

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

The parameters of each axis are displayed. They are set to the default values.

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

The screenshot shows the SWMOS (SWM-G Operating Station) software interface. The 'Parameters' tab is active, displaying a table of parameters for 11 axes (Axis0 to Axis10). The 'Axis Command Mode' for Axis1 is highlighted in red and set to 'Position'. The 'Gear Ratio Numerator' and 'Gear Ratio Denominator' are both set to 1 for all axes. The 'Direction' is set to 'Normal' for all axes. The 'In Position Width[U]' is set to 1000 for all axes. The 'Home Type' is set to 'CurPos' for all axes. The 'Home Direction' is set to 'Positive' for all axes. The 'Homing Vel. Fast[U/s]' and 'Homing Vel. Fast Acc[U/s^2]' are both set to 10000 for all axes.

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	1	1	1	1	1	1	1	1	1	1	1
Gear Ratio Denominator	1	1	1	1	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc[U/s^2]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

System Messages:

Messages: Infos: 37 Warnings: 00 Errors: 00

> Time Information

2024-06-14 11:42:33 EngineState: Shutdown

2024-06-14 11:42:35 EngineState: Idle

Set "Position" (position control) to the operation mode (Axis Command Mode) for axis 1 (Axis0).

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	Position		1	1	1	1	1	1	1	1	1
Gear Ratio Denominator	Torque		1	1	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

Set the gear ratio.

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

The screenshot shows the SWMOS Parameters configuration window. The 'Parameters' tab is active, displaying a table of parameters for 11 axes (Axis0 to Axis10). The 'Gear Ratio Numerator' and 'Gear Ratio Denominator' parameters are highlighted with a red box, and a callout bubble indicates the value '67108864' should be entered. The interface includes a menu bar, a toolbar, a left-hand navigation tree, and a main data table with columns for various axes (Axis0 to Axis10).

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	67108864	1	1	1	1	1	1	1	1	1	1
Gear Ratio Denominator	1	1	1	1	1	1	1	1	1	1	1
Direction					Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]					1000	1000	1000	1000	1000	1000	1000
Home Type					CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc[U/s^2]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Maximal Vel. Fast Pos[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

Set the gear ratio in the gear ratio numerator (Gear Ratio Numerator) and gear ratio denominator (Gear Ratio Denominator). In this case, set the gear ratio for one revolution per 1000 command unit (67108864 = 226 pulses).

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

The screenshot shows the SWMOS Parameters configuration window. The 'Parameters' tab is active, displaying a table of parameters for 11 axes (Axis0 to Axis10). The 'Gear Ratio Numerator' is set to 67108864 and the 'Gear Ratio Denominator' is set to 1000. A callout box points to the 1000 value in the Gear Ratio Denominator row with the text 'Enter "1000".'

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	67108864	1	1	1	1	1	1	1	1	1	1
Gear Ratio Denominator	1000	1	1	1	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

Set the gear ratio in the gear ratio numerator (Gear Ratio Numerator) and gear ratio denominator (Gear Ratio Denominator). In this case, set the gear ratio for one revolution per 1000 command unit ($67108864 = 226$ pulses).

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen.

For the parameter setting procedure, see the video below.

The screenshot shows the SWMOS (SWM-G Operating Station) software interface. The 'Parameters' tab is active, displaying a table of settings for multiple axes (Axis1 to Axis10). The table includes parameters such as Position, Gear Ratio Numerator, Gear Ratio Denominator, Direction, In Position Width[U], Home Type, Home Direction, Homing Vel. Fast[U/s], and Homing Vel. Fast Acc[U/s^2].

Callouts indicate the following settings:

- Select "Position" for Axis2.
- Enter "67108864" for the Gear Ratio Numerator of Axis2.
- Enter "1000" for the Gear Ratio Denominator of Axis2.

In the same way, set the operation mode (Axis Command Mode), gear ratio numerator (Gear Ratio Numerator), and gear ratio denominator (Gear Ratio Denominator) for axis 2 (Axis1) to axis 4 (Axis3).

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

The screenshot shows the SWMOS (SWM-G Operating Station) software interface. The 'Parameters' tab is selected, displaying a table of settings for multiple axes (Axis 2 to Axis 10). The table has columns for 'Item' and 'Axis2' through 'Axis10'. The 'Gear Ratio Numerator' and 'Gear Ratio Denominator' rows are highlighted, and callouts indicate the values to be entered for Axis 2 (Axis1) to Axis 4 (Axis3).

Item	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	67108864	67108864	67108864	67108864	67108864	67108864	67108864	67108864	67108864
Gear Ratio Denominator	1000	1000	1000	1000	1000	1000	1000	1000	1000
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000

Callouts in the image indicate the following settings:

- Select "Position".
- Enter "67108864".
- Enter "1000".

In the same way, set the operation mode (Axis Command Mode), gear ratio numerator (Gear Ratio Numerator), and gear ratio denominator (Gear Ratio Denominator) for axis 2 (Axis1) to axis 4 (Axis3).

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen.

For the parameter setting procedure, see the video below.

Click the [Apply] button.

Now you have completed the parameter settings.
Lastly, write the set parameters to all axes.

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

The screenshot displays the SWMOS Parameter Setting interface. The main window shows a table of parameters for 11 axes (Axis0 to Axis10). The parameters include Axis Command Mode, Gear Ratio Numerator, Gear Ratio Denominator, Direction, In Position Width, Home Type, Home Direction, Homing Vel. Fast, and Homing Vel. Fast Acc. A confirmation message "All parameters have been saved." is displayed in the center, with an "OK" button highlighted. A callout box points to the "OK" button with the text "Click the [OK] button." Below the table, there are buttons for "Restore Default", "Export File", and "Import File". The System Messages section at the bottom shows a log of messages, including "EngineState: Shutdown" and "EngineState: Idle".

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	67108864	67108864	67108864	67108864	1	1	1	1	1	1	1
Gear Ratio Denominator	1000	1000	1000	1000	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	Information	Information	Information	Information	Information	Information	Information	Information	Information	Information
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc[U/s^2]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

When the writing is completed, a writing completion message appears.

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	67108864	67108864	67108864	67108864	1	1	1	1	1	1	1
Gear Ratio Denominator	1000	1000	1000	1000	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Dec[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

System Messages
Messages: Infos: 37, Warnings: 00, Errors: 00

2024-06-14 11:42:33 EngineState: Shutdown
2024-06-14 11:42:35 EngineState: Idle

Now you have set the parameters and applied them to the engine.

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

Precautions

Restarting the SWM-G engine initializes the parameters in SWM-G, and the parameters are set to their default values.

Point

To keep the settings, you can save the parameters to a file and then load the file with the saved parameters the next time you start the SWM-G engine.

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	67108864	67108864	67108864	67108864	1	1	1	1	1	1	1
Gear Ratio Denominator	1000	1000	1000	1000	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Max Vel. Fast Pos[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

Click the [Export File] button.

System Messages
Messages: Infos: 37 Warnings: 00 Errors: 00
Clear log

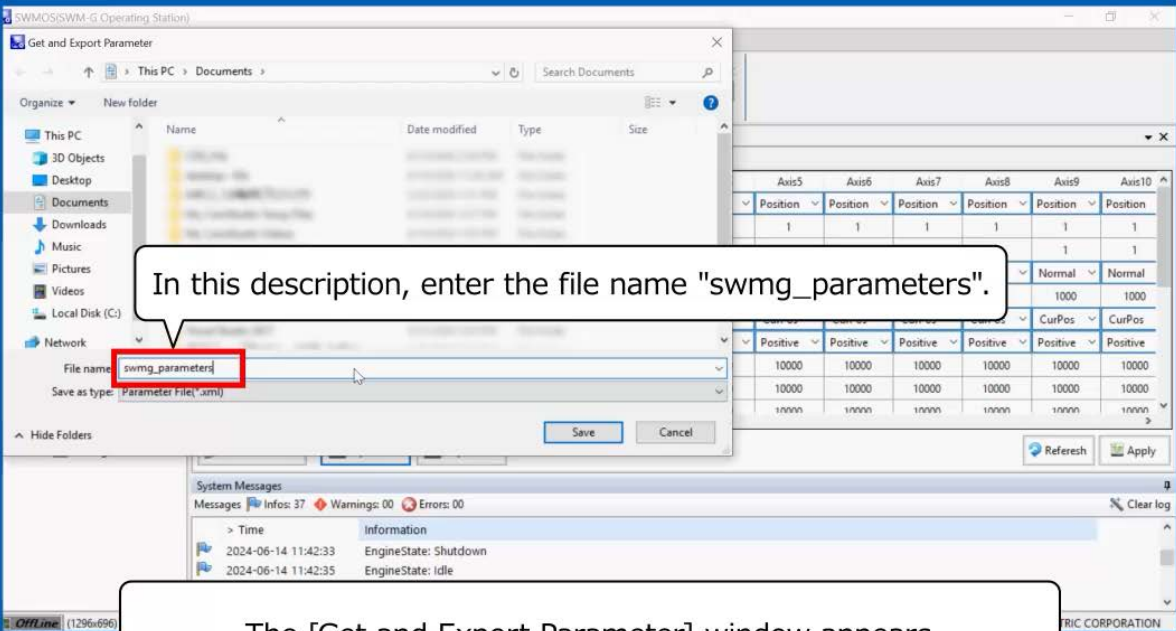
> Time Information
2024-06-14 11:42:33 EngineState: Shutdown
2024-06-14 11:42:35 EngineState: Idle

Now save the parameters to a file to use the same parameter settings at the next startup.

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen.

For the parameter setting procedure, see the video below.



In this description, enter the file name "swmg_parameters".

The [Get and Export Parameter] window appears.
Enter the file name and save the file.
The file format of the parameter file is XML.

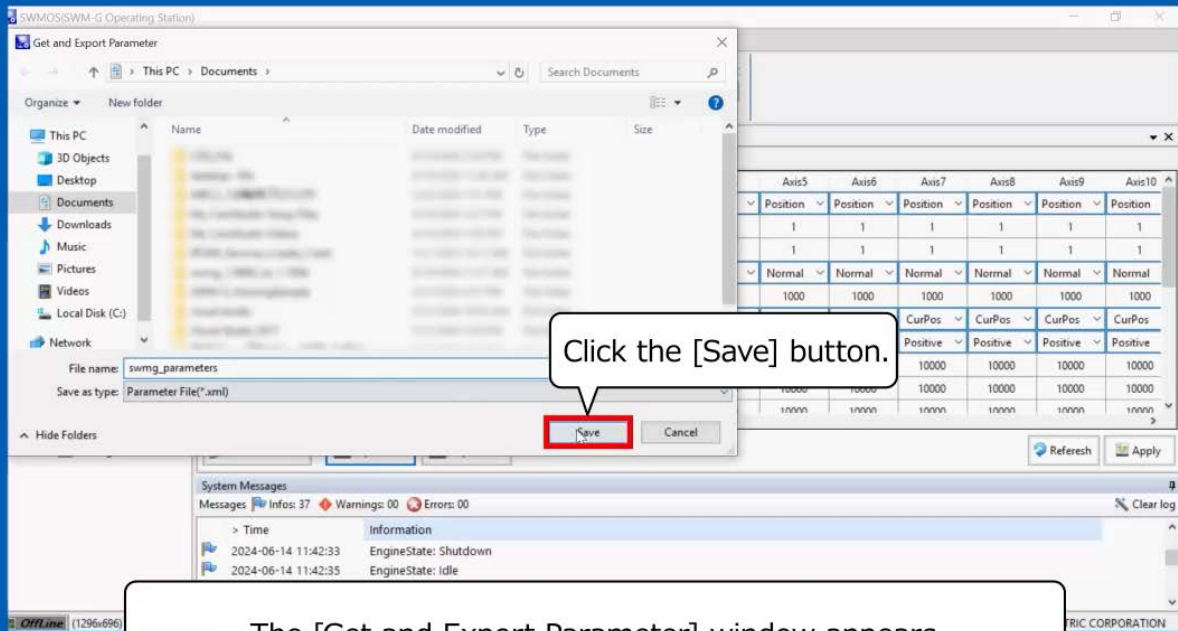
	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Position	1	1	1	1	1	1
CurPos	1000	1000	1000	1000	1000	1000
Position	10000	10000	10000	10000	10000	10000
CurPos	10000	10000	10000	10000	10000	10000

System Messages
Messages: Infos: 37, Warnings: 00, Errors: 00
Clear log

> Time Information
2024-06-14 11:42:33 EngineState: Shutdown
2024-06-14 11:42:35 EngineState: Idle

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.



The [Get and Export Parameter] window appears.
Enter the file name and save the file.
The file format of the parameter file is XML.

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

The screenshot displays the SWMOS Parameter Setting interface. The main window shows a table of parameters for 11 axes (Axis0 to Axis10). A message box titled "Master Parameter Get and Export Complete" is overlaid on the table, with an "OK" button highlighted by a red box. A callout bubble points to the "OK" button with the text "Click the [OK] button." Below the parameter table, there are buttons for "Restore Default", "Export File", and "Import File". The "System Messages" section at the bottom shows a log of messages, including "EngineState: Shutdown" and "EngineState: Idle".

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	67108864	67108864	67108864	67108864	1	1	1	1	1	1	1
Gear Ratio Denominator	1000	1000	1000	1000	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	100	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	10000
Homing Vel. Fast Acc[U/s^2]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	10000

When saving is completed, a saving completion message appears.

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

Precautions

Click the [Export File] button to save the parameters that are directly read from the SWM-G engine to a file.
Before saving the set parameters to a file, click the [Apply] button to apply the parameters to the SWM-G engine.

Point

Save the system parameters and axis parameters of all axes to a parameter file in XML format.
This xml file is also available from the user program (Import function).

2024-06-14 11:42:33	EngineState: Shutdown
2024-06-14 11:42:35	EngineState: Idle

Now you have exported the parameter file.

This chapter describes the parameter settings.

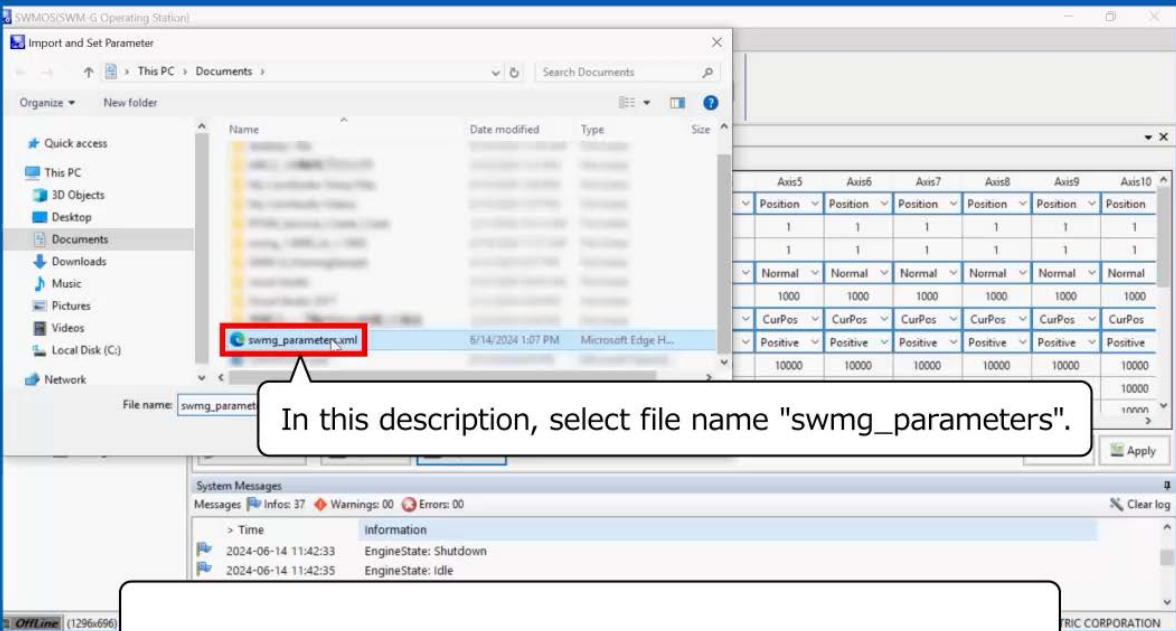
Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

Click the [Import File] button.

Next, this section describes the procedure for reading the parameter file at restart.

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.



In this description, select file name "swmg_parameters".

The [Import and Set Parameter] window appears. Select the parameter file (.xml) to be read.

	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Position	Position	Position	Position	Position	Position	Position
	1	1	1	1	1	1
	1	1	1	1	1	1
Normal	Normal	Normal	Normal	Normal	Normal	Normal
	1000	1000	1000	1000	1000	1000
CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
	10000	10000	10000	10000	10000	10000

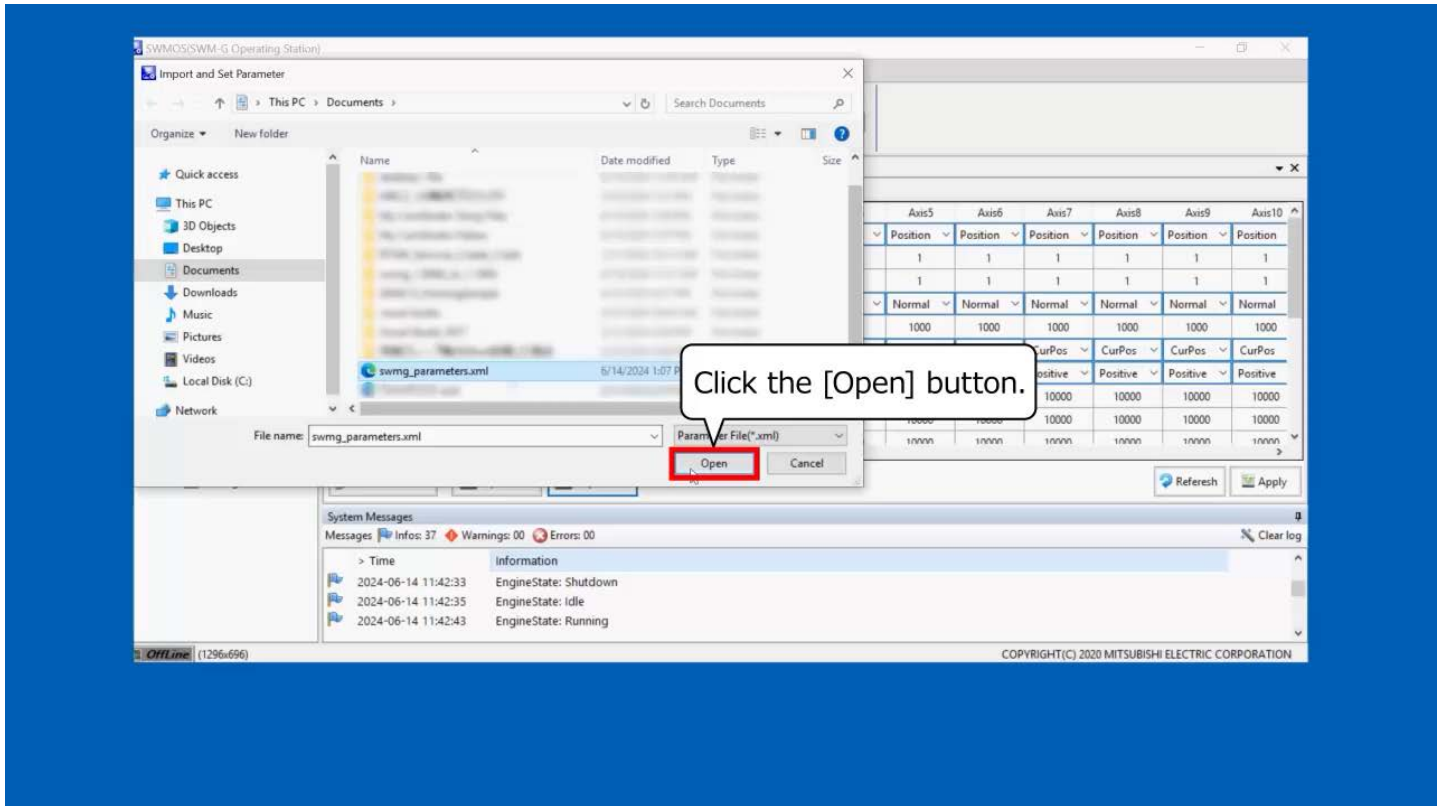
System Messages
Messages: Infos: 37 Warnings: 00 Errors: 00
Clear log

> Time Information
2024-06-14 11:42:33 EngineState: Shutdown
2024-06-14 11:42:35 EngineState: Idle

Offline (1296x696) ERIC CORPORATION

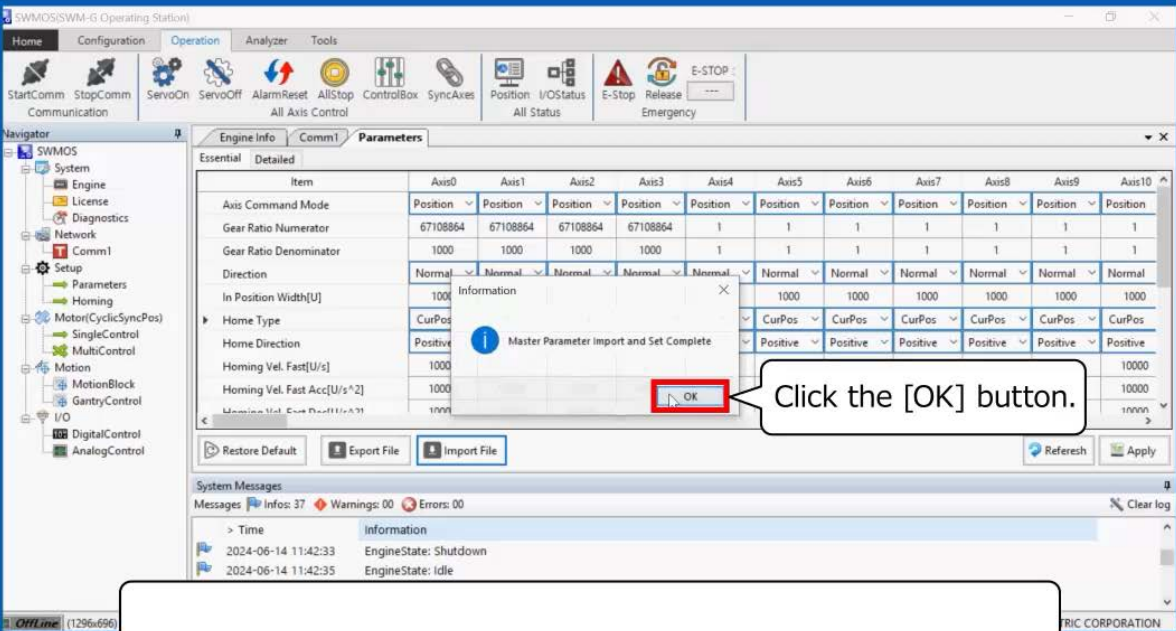
This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.



This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.



The screenshot displays the SWMOS Parameter Setting interface. A message box titled "Master Parameter Import and Set Complete" is overlaid on the parameter table, with an "OK" button highlighted by a red box. A callout bubble points to the "OK" button with the text "Click the [OK] button." Below the parameter table, the "System Messages" section shows a log of events, including "EngineState: Shutdown" and "EngineState: Idle".

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	67108864	67108864	67108864	67108864	1	1	1	1	1	1	1
Gear Ratio Denominator	1000	1000	1000	1000	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	Information				1000	1000	1000	1000	1000	1000
Home Type	CurPos					CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive					Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	1000										10000
Homing Vel. Fast Acc[U/s ²]	1000										10000
Master Parameter Import and Set Complete											

System Messages

Messages: Infos: 37 Warnings: 00 Errors: 00

2024-06-14 11:42:33 EngineState: Shutdown

2024-06-14 11:42:35 EngineState: Idle

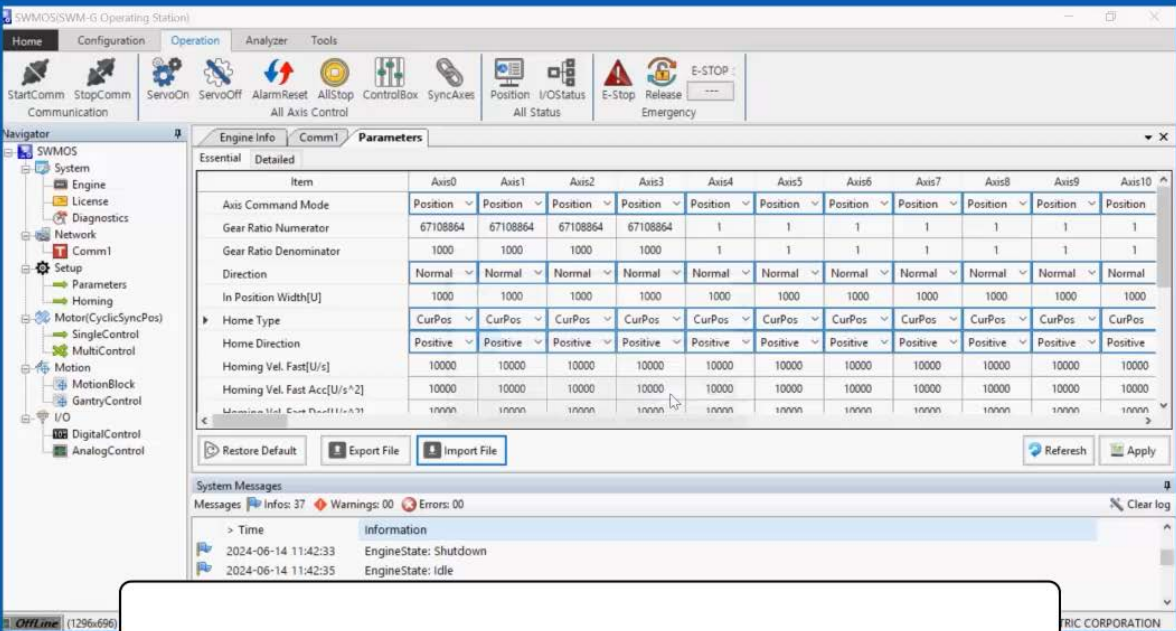
ONLine (1296x696)

TRIC CORPORATION

A message indicating that applying parameters to the engine is completed appears.

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.



The screenshot displays the SWMOS Parameter Setting interface. The main window shows a table of parameters for 11 axes (Axis0 to Axis10). The parameters are organized into two tabs: 'Essential' and 'Detailed'. The 'Detailed' tab is active, showing a list of parameters with their values for each axis. The 'Import File' button is highlighted, indicating the completion of the parameter import process.

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	67108864	67108864	67108864	67108864	1	1	1	1	1	1	1
Gear Ratio Denominator	1000	1000	1000	1000	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Dec[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

System Messages:

Messages: Infos: 37 Warnings: 00 Errors: 00

2024-06-14 11:42:33 EngineState: Shutdown

2024-06-14 11:42:35 EngineState: Idle

Now you have imported the parameter file.

This chapter describes the parameter settings.

Check that the steps up to Section 2.4.2 "Writing to SWM-G engine" have been completed in the SWMOS screen. For the parameter setting procedure, see the video below.

The screenshot displays the SWMOS Parameter Setting interface. The main window shows a table of parameters for 11 axes (Axis0 to Axis10). The parameters are organized into two tabs: 'Essential' and 'Detailed'. The 'Essential' tab is currently selected, showing a list of parameters with dropdown menus for selection and input fields for numerical values.

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	67108864	67108864	67108864	67108864	1	1	1	1	1	1	1
Gear Ratio Denominator	1000	1000	1000	1000	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

Below the table, there are buttons for 'Restore Default', 'Export File', and 'Import File'. The 'System Messages' section shows a log of messages, including 'EngineState: Shutdown' and 'EngineState: Idle'.

Go to the next page.

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

Click the play button at the lower left of the screen.

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	67108864	67108864	67108864	67108864	1	1	1	1	1	1	1
Gear Ratio Denominator	1000	1000	1000	1000	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
									Positive	Positive	Positive
									10000	10000	10000
									10000	10000	10000
									10000	10000	10000

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The 'Home' ribbon is selected, and the 'StartComm' button is highlighted with a red box. The 'Parameters' tab is active, showing a table of parameters for 11 axes (Axis0 to Axis10). The 'System Messages' panel at the bottom shows a log of events, including 'EngineState: Running' and 'ScanNetwork succeeded.No error.'

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	67108864	67108864	67108864	67108864	1	1	1	1	1	1	1
Gear Ratio Denominator	1000	1000	1000	1000	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Slow Prof[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

System Messages
Messages: Info: 09, Warnings: 00, Errors: 00

> Time Information
2024-06-14 14:32:18 EngineState: Running
2024-06-14 14:32:32 ScanNetwork succeeded.No error.

In the [SWMOS] screen, click [StartComm] to start communication in [Operation] on the ribbon.

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window shows the 'Parameters' tab, which is a table of parameters for 11 axes (Axis0 to Axis10). The 'SingleControl' option is highlighted in the left-hand navigation tree. The system messages window at the bottom shows a successful scan network and start communication.

Item	Axis0	Axis1	Axis2	Axis3	Axis4	Axis5	Axis6	Axis7	Axis8	Axis9	Axis10
Axis Command Mode	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position	Position
Gear Ratio Numerator	67108864	67108864	67108864	67108864	1	1	1	1	1	1	1
Gear Ratio Denominator	1000	1000	1000	1000	1	1	1	1	1	1	1
Direction	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
In Position Width[U]	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Home Type	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos	CurPos
Home Direction	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
Homing Vel. Fast[U/s]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Acc[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
Homing Vel. Fast Dec[U/s ²]	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000

System Messages:

Messages: Infos: 10, Warnings: 00, Errors: 00

> Time Information

2024-06-14 14:32:32 ScanNetwork succeeded.No error.

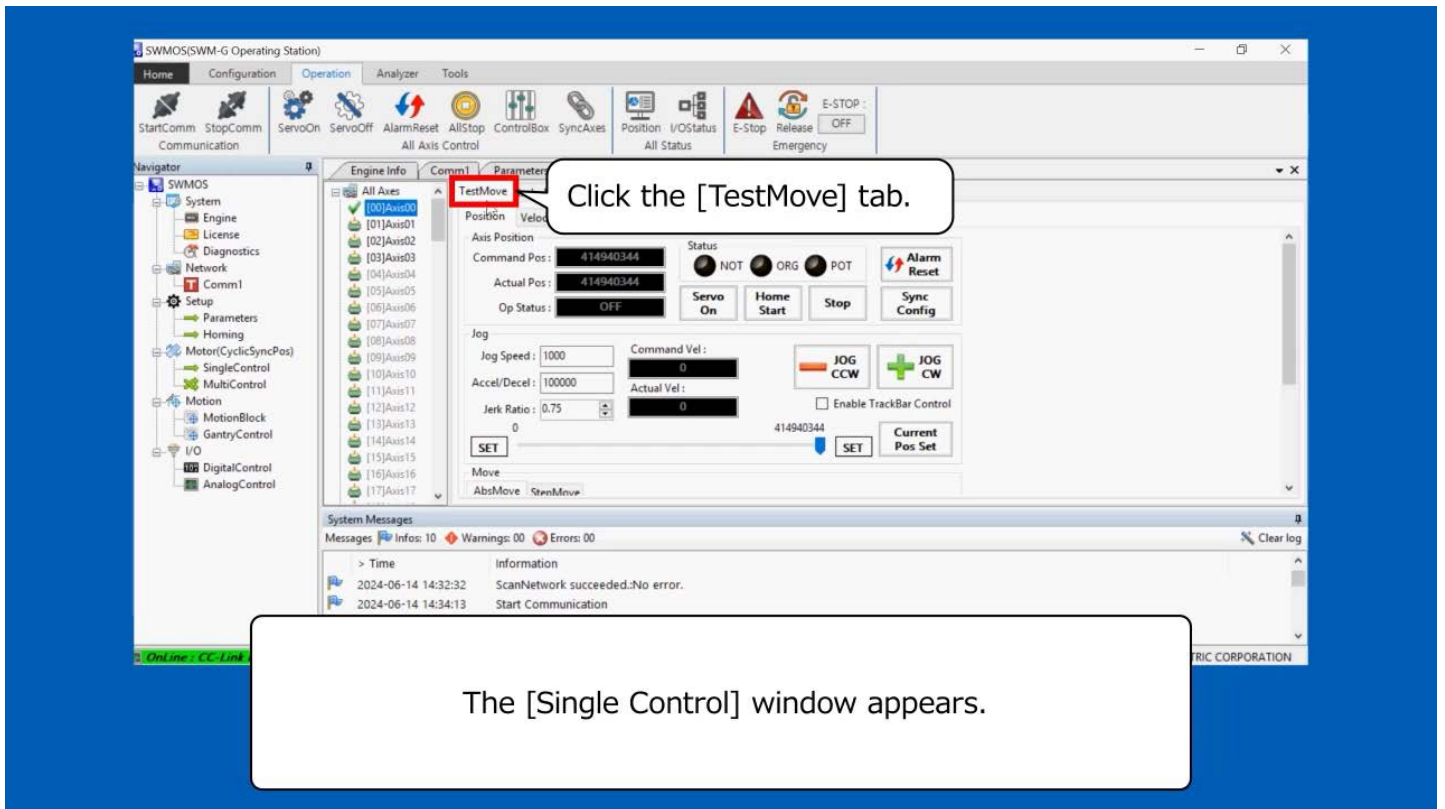
2024-06-14 14:34:13 Start Communication

From the navigation window on the [SWMOS] screen, select [SWMOS] → [Motor(CyclicSyncPos)] → [SingleControl].

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

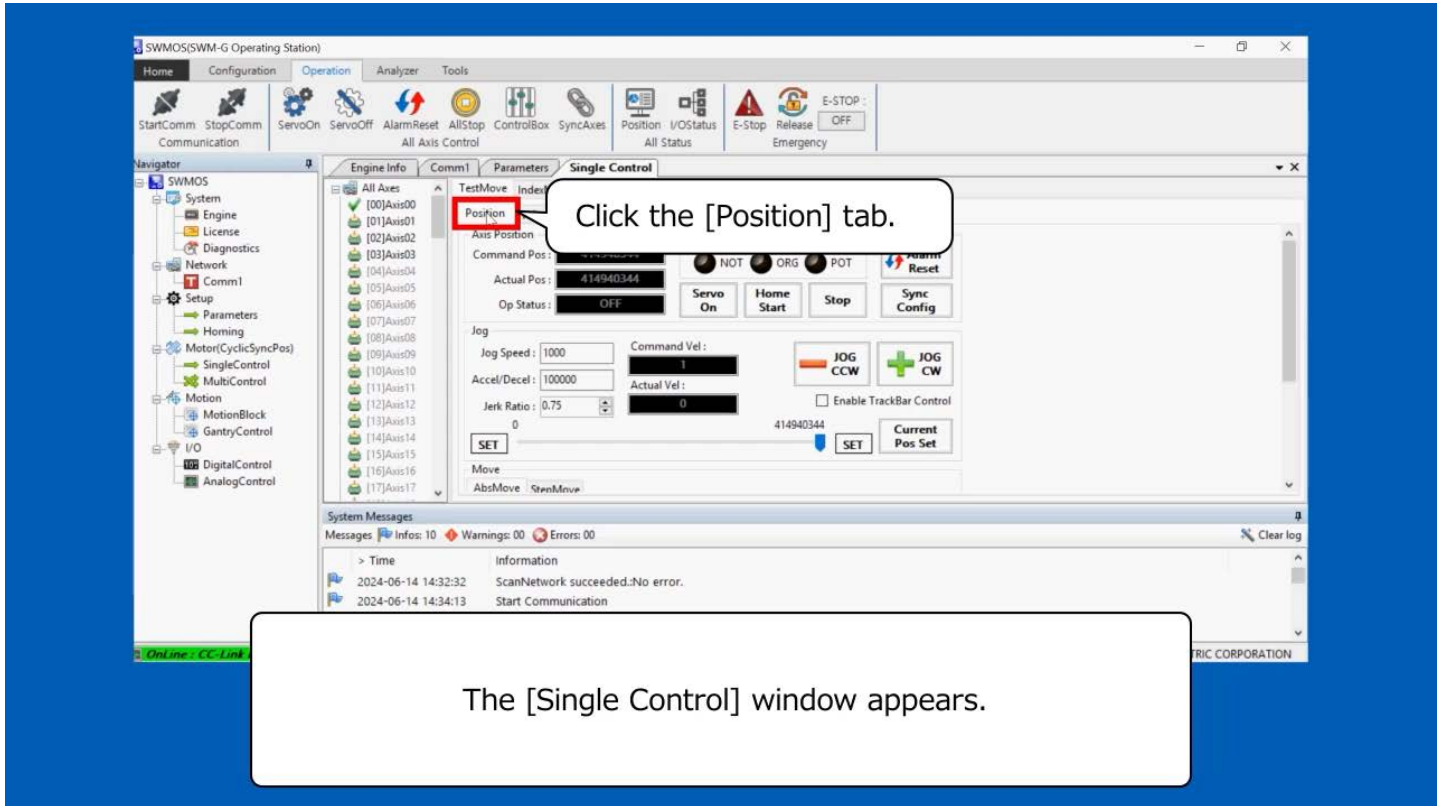
For the single-axis control procedure, see the video below.



In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

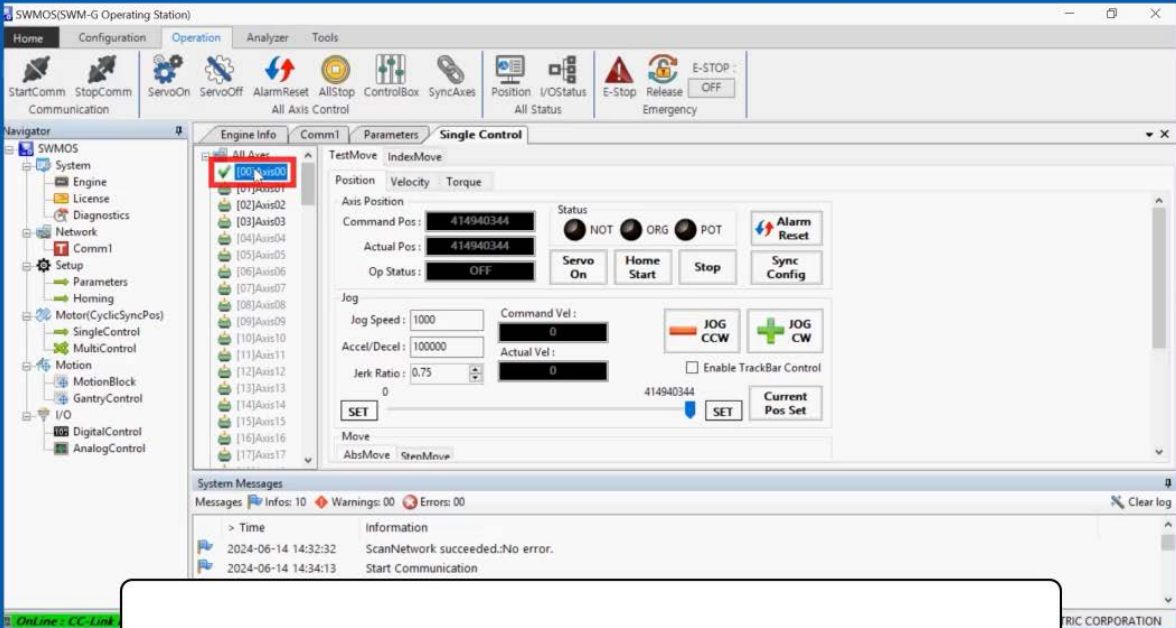
For the single-axis control procedure, see the video below.



In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.



The screenshot displays the SWMOS (SWM-G Operating Station) software interface. The main window is titled "SWMOS(SWM-G Operating Station)" and features a menu bar with "Home", "Configuration", "Operation", "Analyzer", and "Tools". Below the menu bar is a toolbar with various icons for "StartComm", "StopComm", "ServoOn", "ServoOff", "AlarmReset", "AllStop", "ControlBox", "SyncAxis", "Position", "I/OStatus", "E-STOP", "Release", and "Emergency".

The "Navigator" tree on the left shows a hierarchy of components: SWMOS, System, Engine, License, Diagnostics, Network, Comm1, Setup, Parameters, Homing, Motor(CyclicSyncPos), SingleControl, MultiControl, Motion, MotionBlock, GantryControl, I/O, DigitalControl, and AnalogControl. The "SingleControl" component is selected, and its sub-items are listed: "[00]Axis00", "[02]Axis02", "[03]Axis03", "[04]Axis04", "[05]Axis05", "[06]Axis06", "[07]Axis07", "[08]Axis08", "[09]Axis09", "[10]Axis10", "[11]Axis11", "[12]Axis12", "[13]Axis13", "[14]Axis14", "[15]Axis15", "[16]Axis16", and "[17]Axis17". The "[00]Axis00" entry is highlighted with a red box.

The main control area is titled "Single Control" and contains several sections: "TestMove" and "IndexMove" tabs, "Position", "Velocity", and "Torque" sub-sections, and "Jog" controls. The "Position" section shows "Axis Position" with "Command Pos: 414940344" and "Actual Pos: 414940344". The "Status" section includes "NOT", "ORG", and "POT" indicators, along with "Alarm Reset", "Servo On", "Home Start", "Stop", and "Sync Config" buttons. The "Jog" section includes "Jog Speed: 1000", "Accel/Decel: 100000", "Jerk Ratio: 0.75", "Command Vel: 0", and "Actual Vel: 0" fields, along with "JOG CCW" and "JOG CW" buttons. A "SET" button is also present.

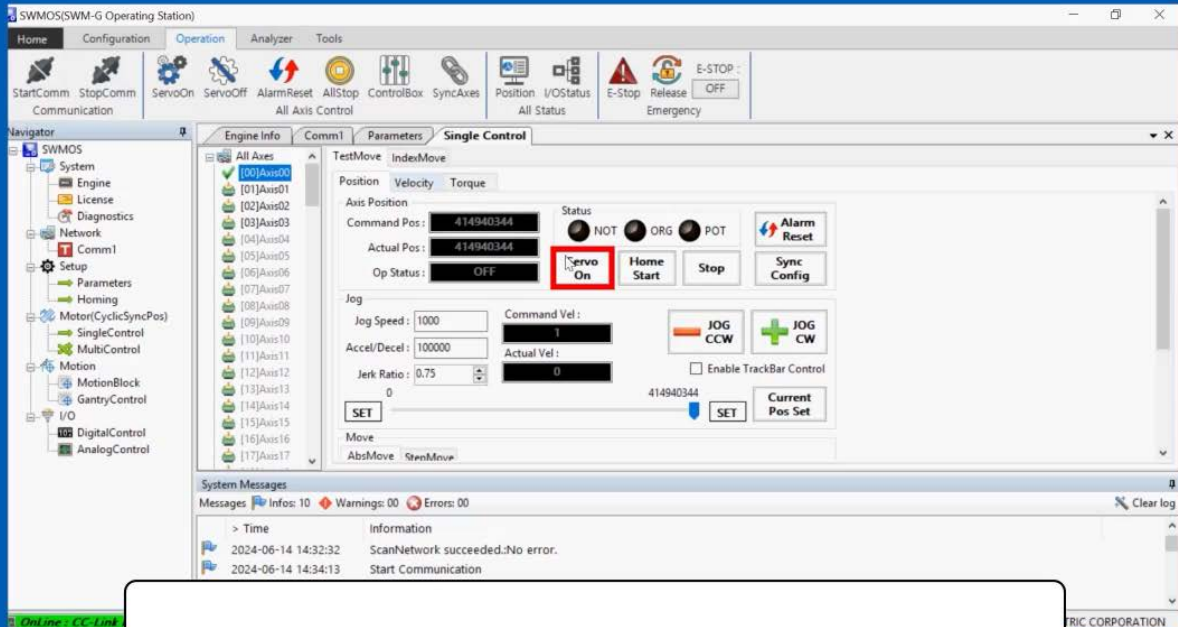
The "System Messages" window at the bottom shows a list of messages: "2024-06-14 14:32:32 ScanNetwork succeeded.No error." and "2024-06-14 14:34:13 Start Communication".

A white callout box with a black border is overlaid on the bottom of the screenshot, containing the text: "Select \"[00]Axis00\" (axis 1)."

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

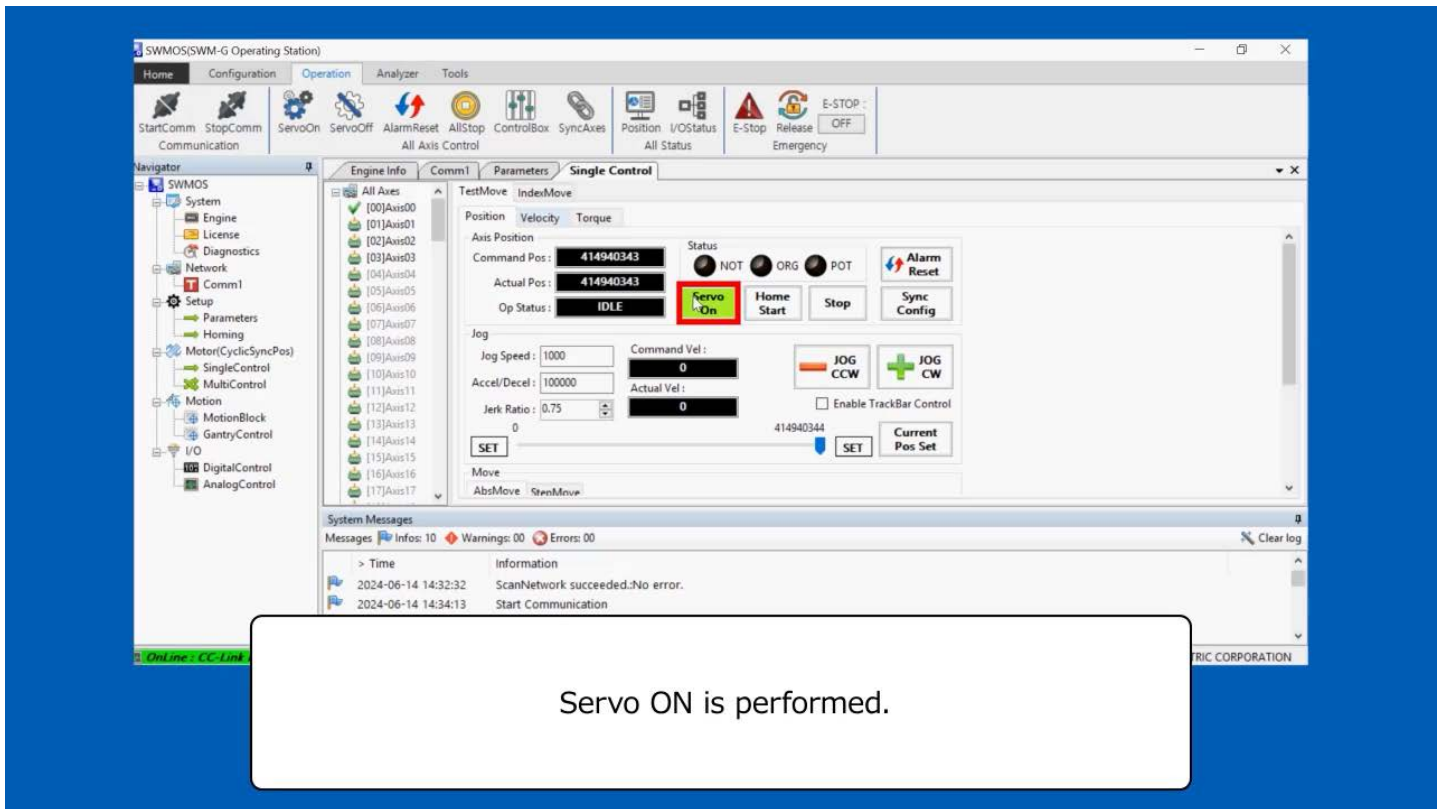


Click the [Servo On] button.

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.



In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

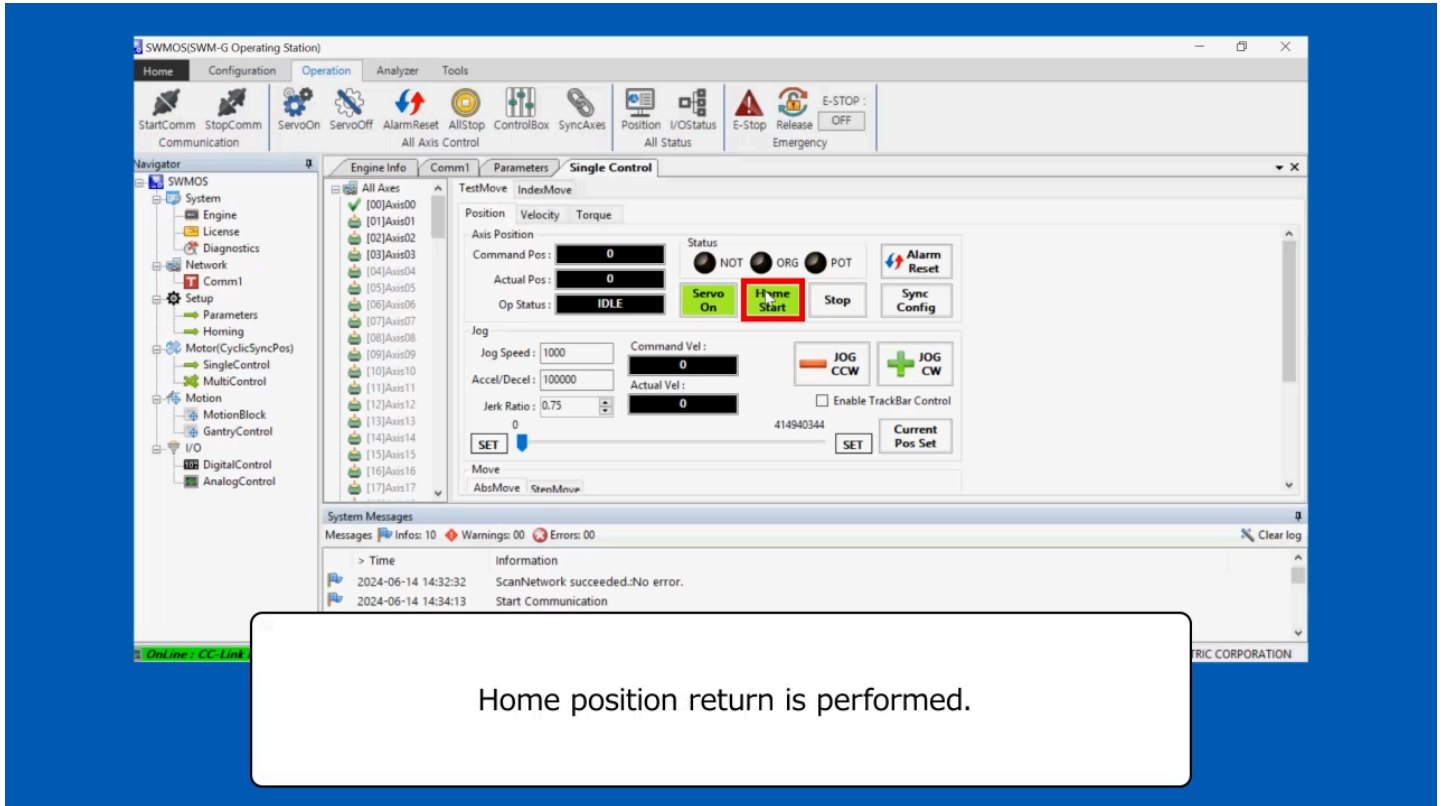
For the single-axis control procedure, see the video below.

Click the [Home Start] button.

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.



In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

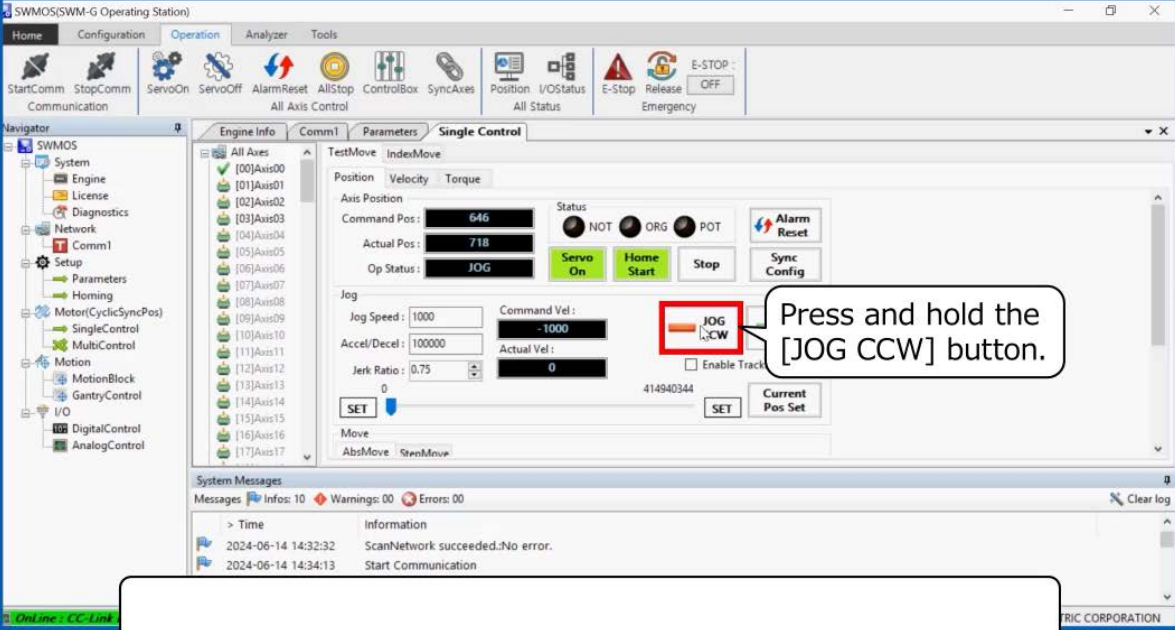
Press and hold the [JOG CW] button.

The JOG operation is performed in the forward direction while the [JOG CW] button is pressed.

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.



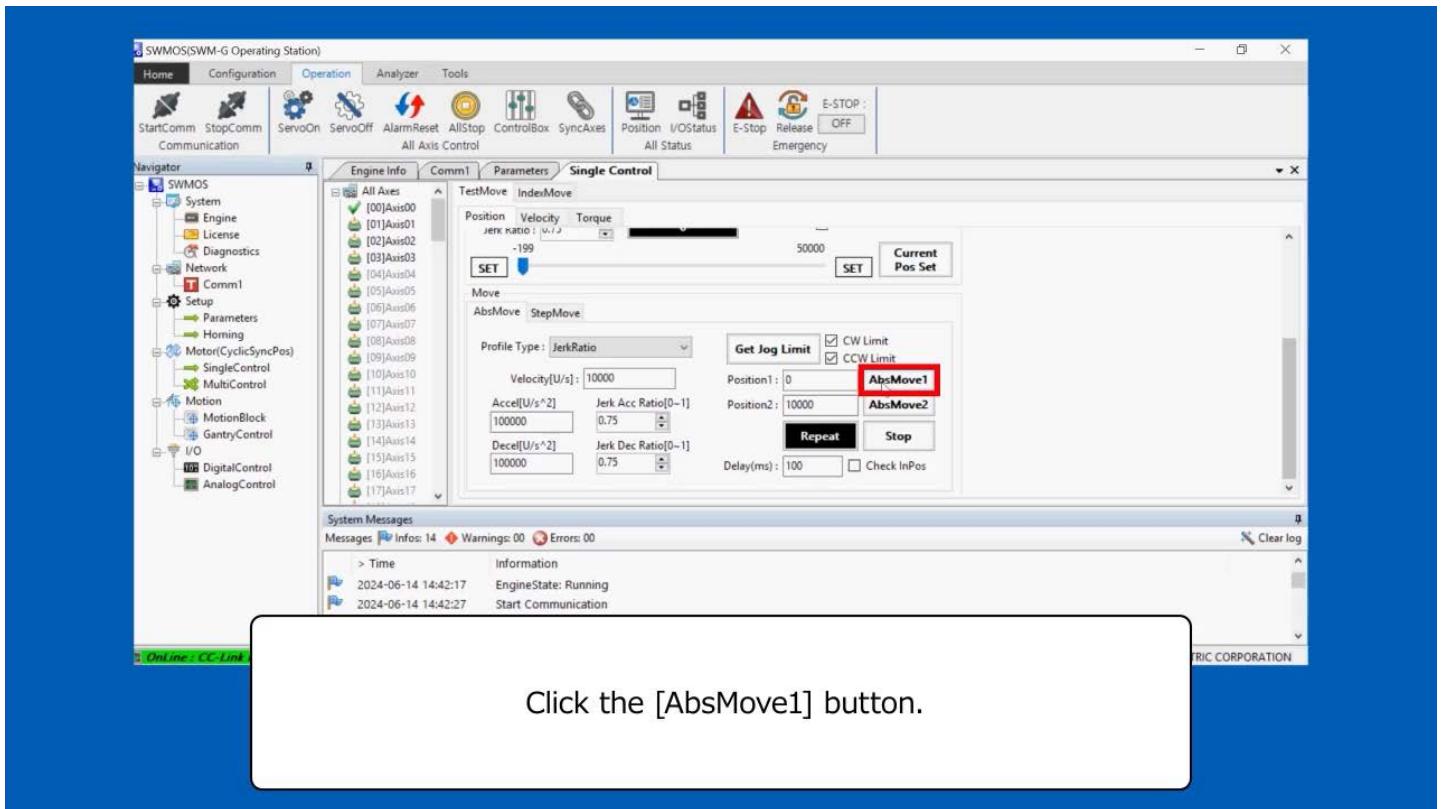
Press and hold the [JOG CCW] button.

The JOG operation is performed in the reverse direction while the [JOG CCW] button is pressed.

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

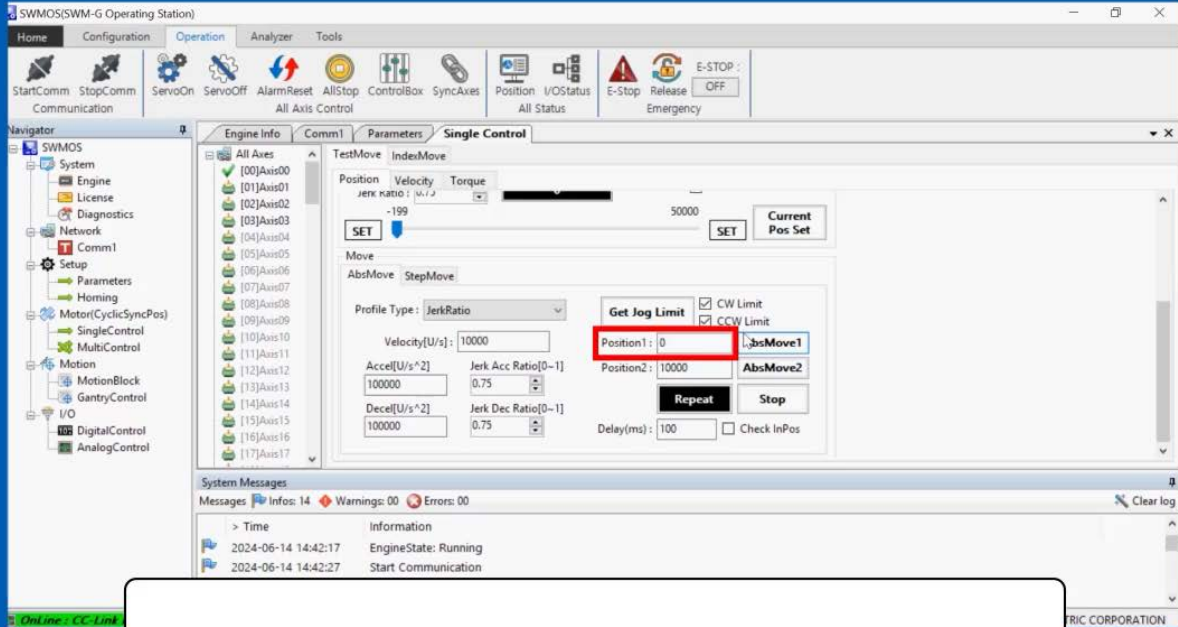
For the single-axis control procedure, see the video below.



In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.



Positioning is performed on the value (0) of [Position1].

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

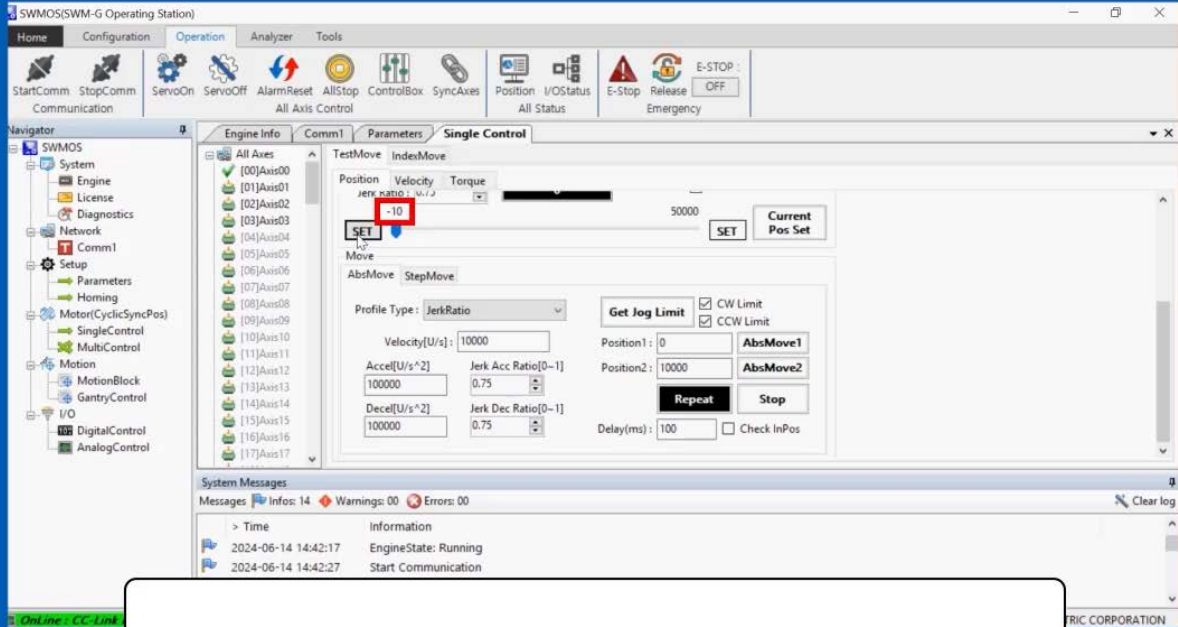
For the single-axis control procedure, see the video below.

Click the [SET] button on the left.

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

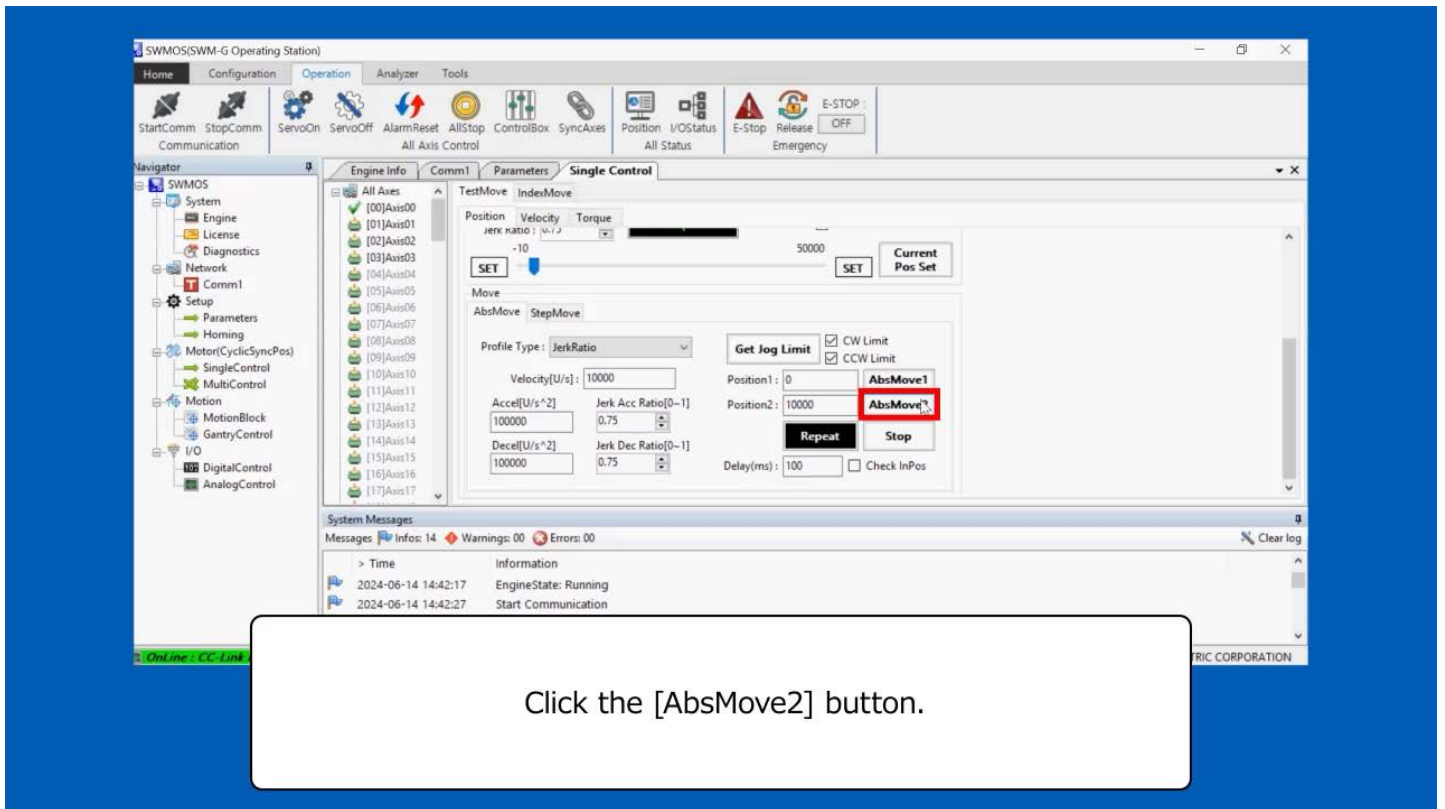
For the single-axis control procedure, see the video below.



In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

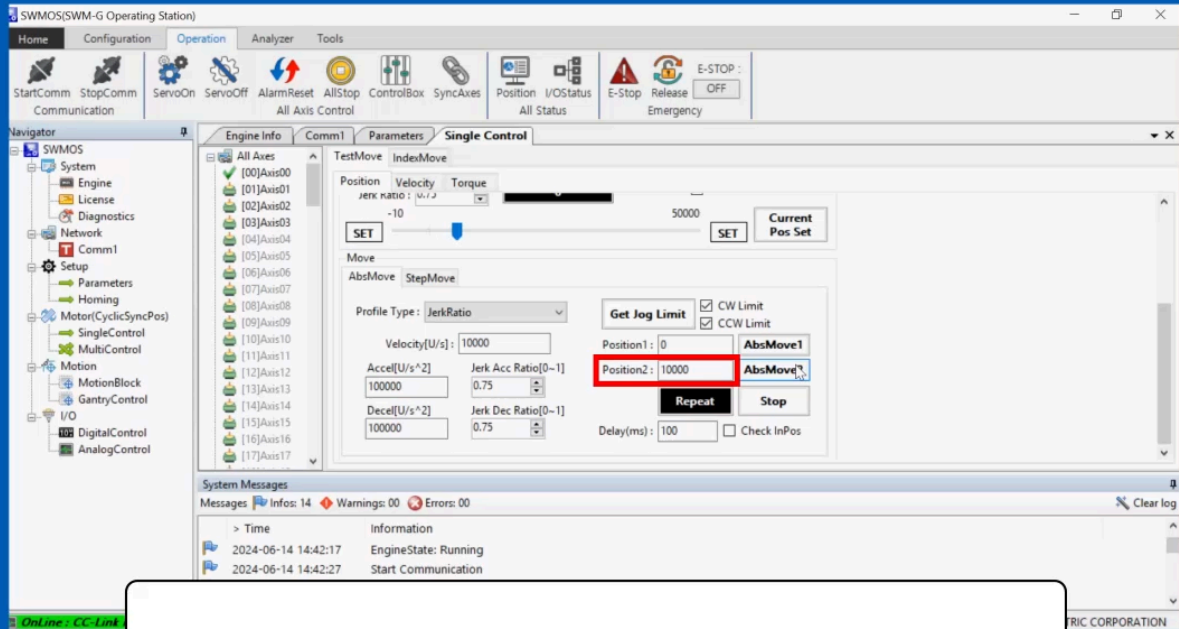
For the single-axis control procedure, see the video below.



In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

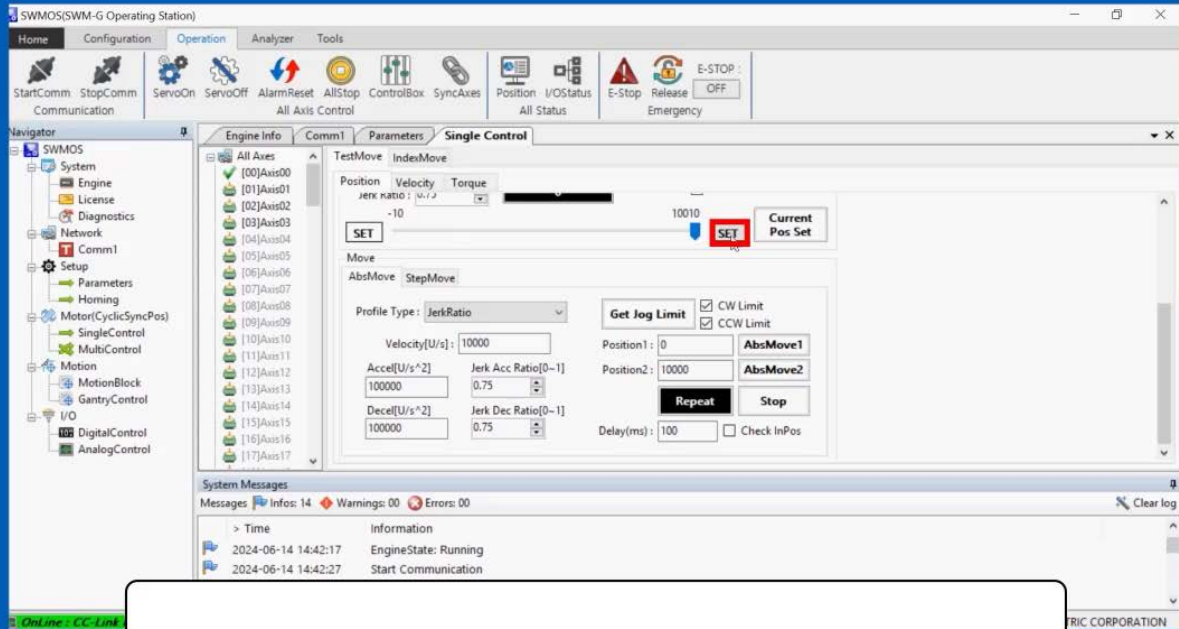


Positioning is performed on the value (10000) of [Position2].

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

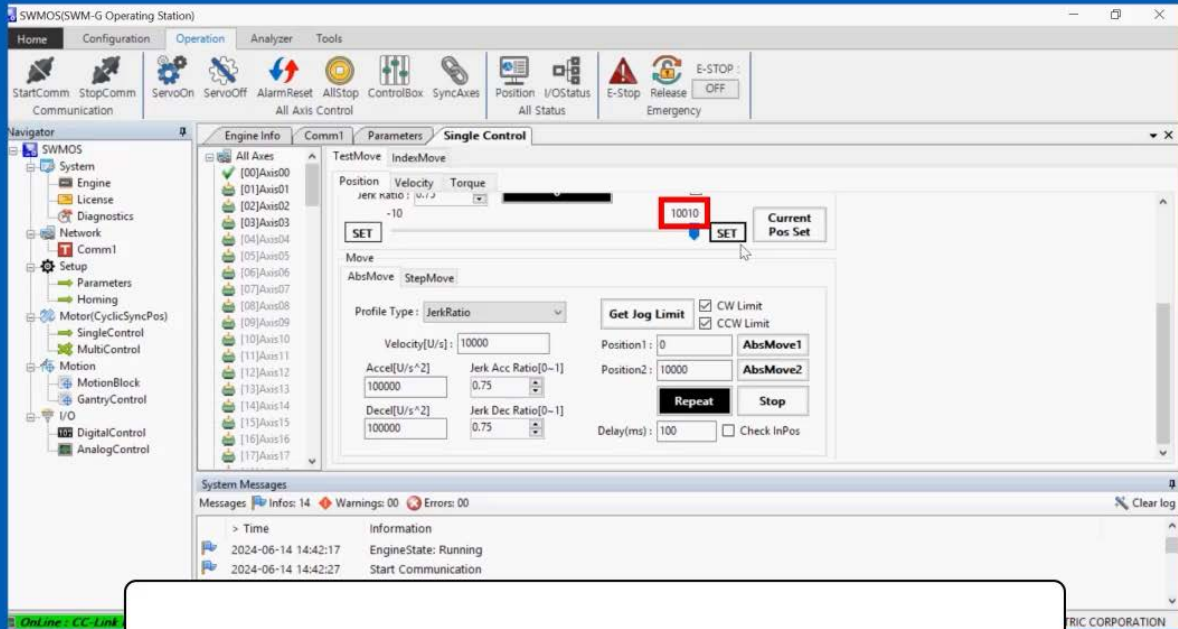
For the single-axis control procedure, see the video below.



In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

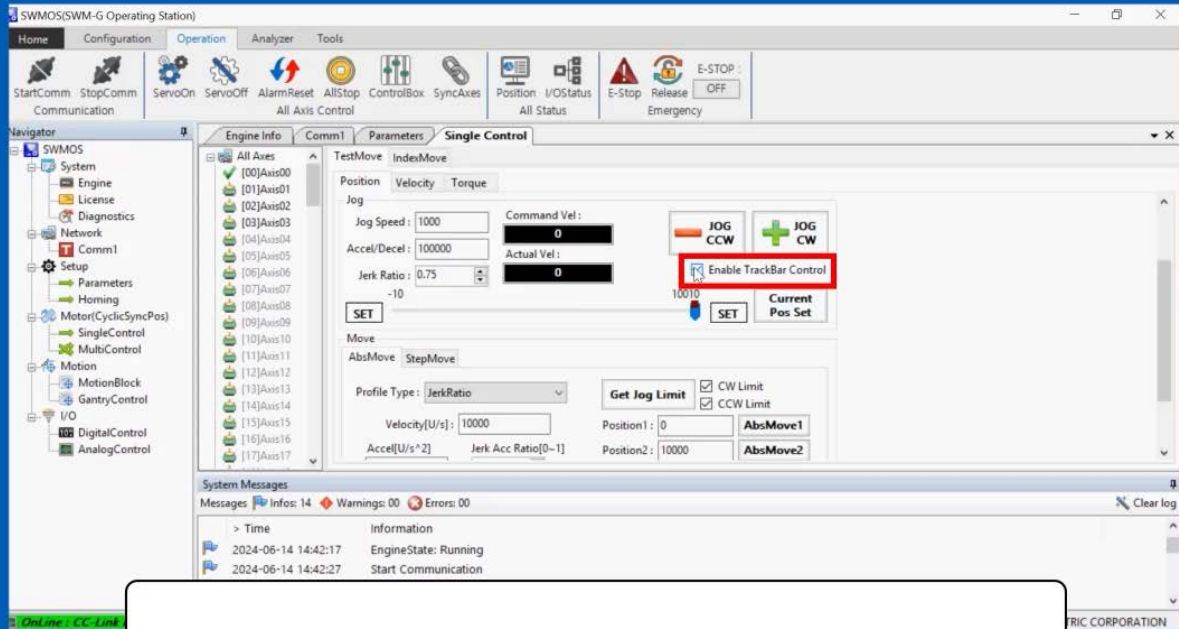


The upper limit of the track bar is set to the value (10010) obtained by adding 10 to the current value.

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

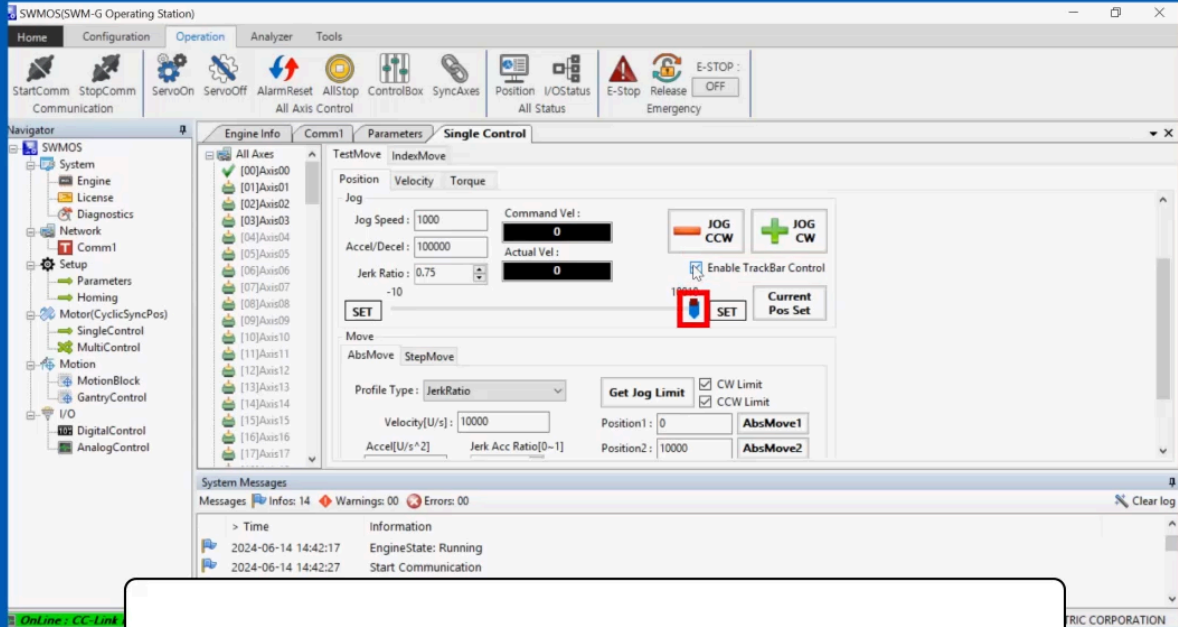


Select the [Enable TrackBar Control] checkbox.

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

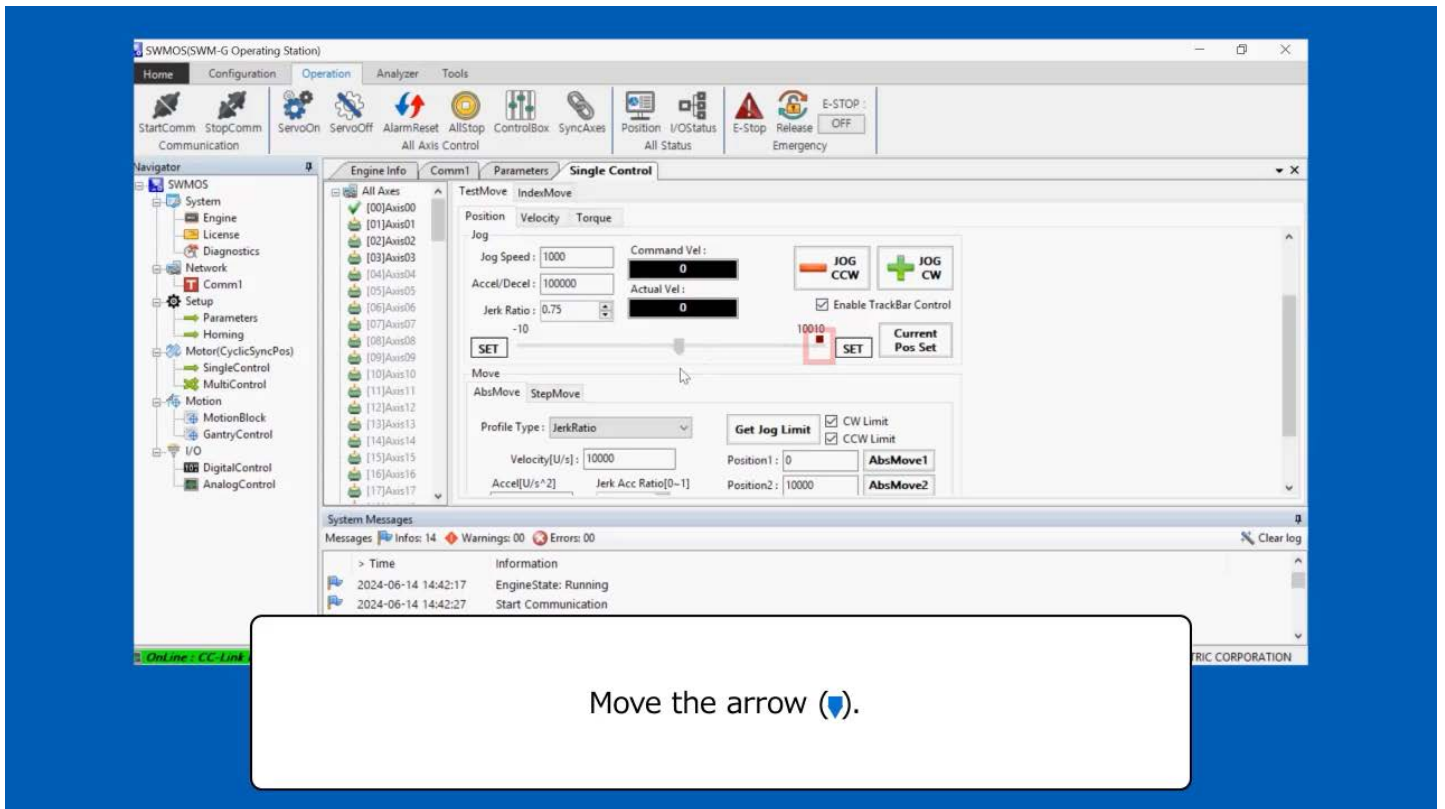


The current position (■) is displayed.

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

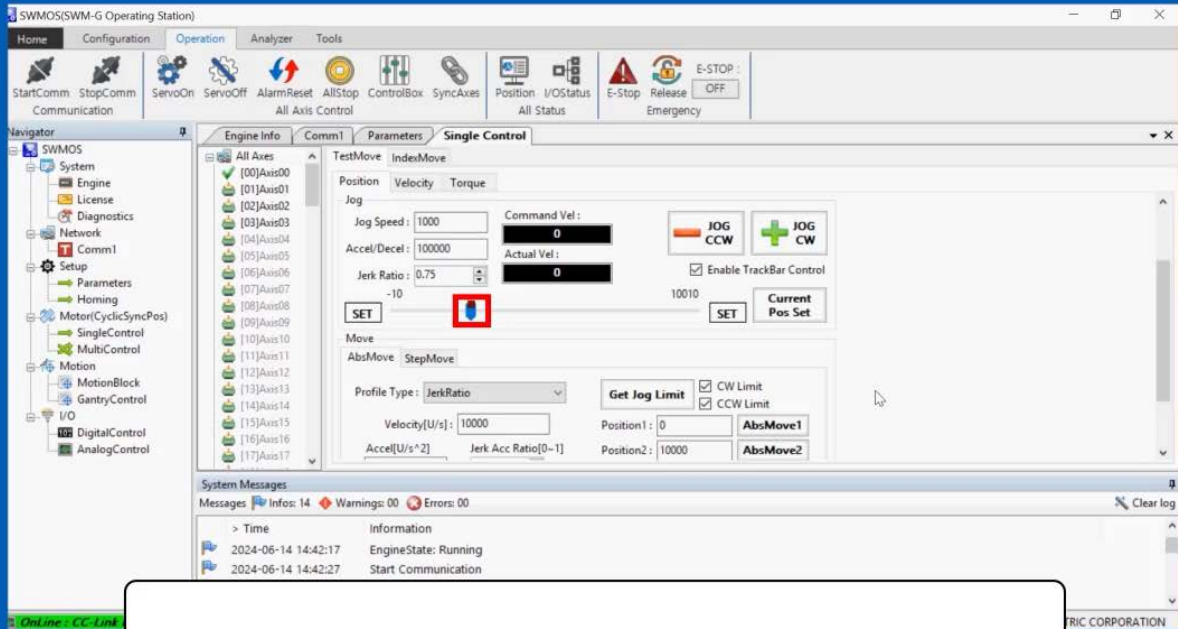
For the single-axis control procedure, see the video below.



In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

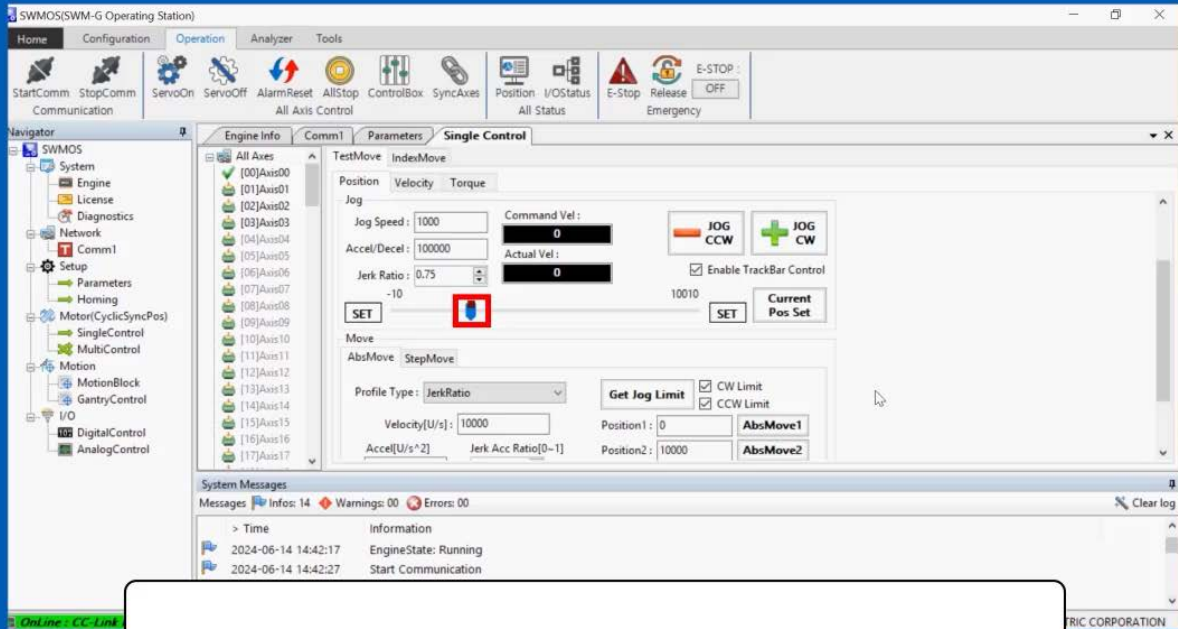


The JOG operation is started toward the position where the arrow was moved.

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

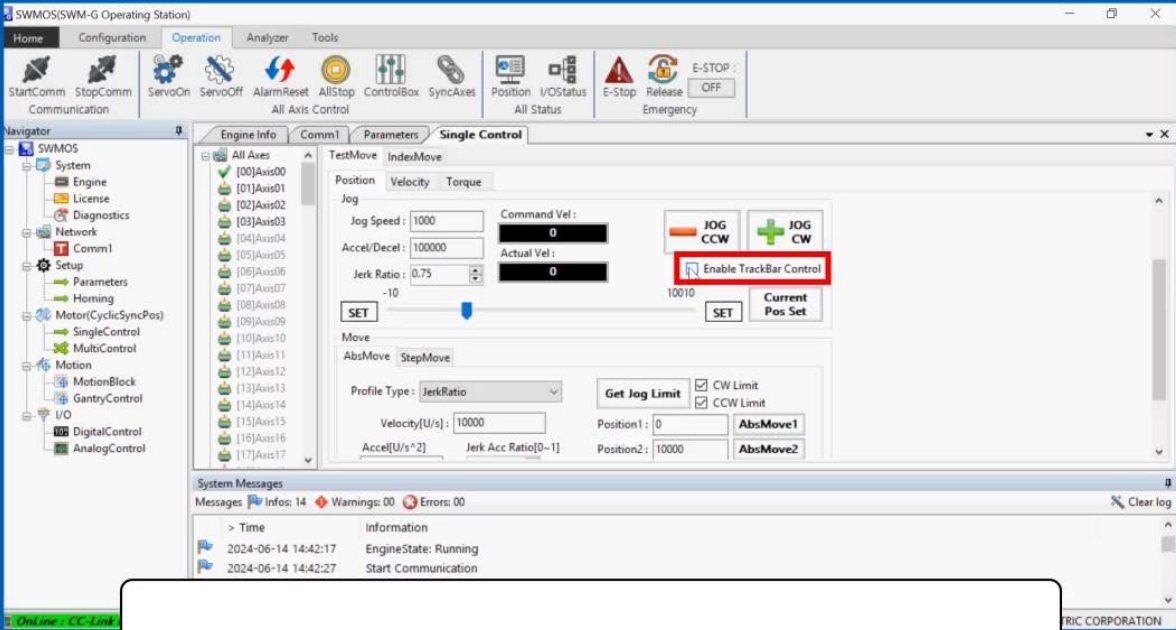


The motor was positioned according to the arrow (↕).

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

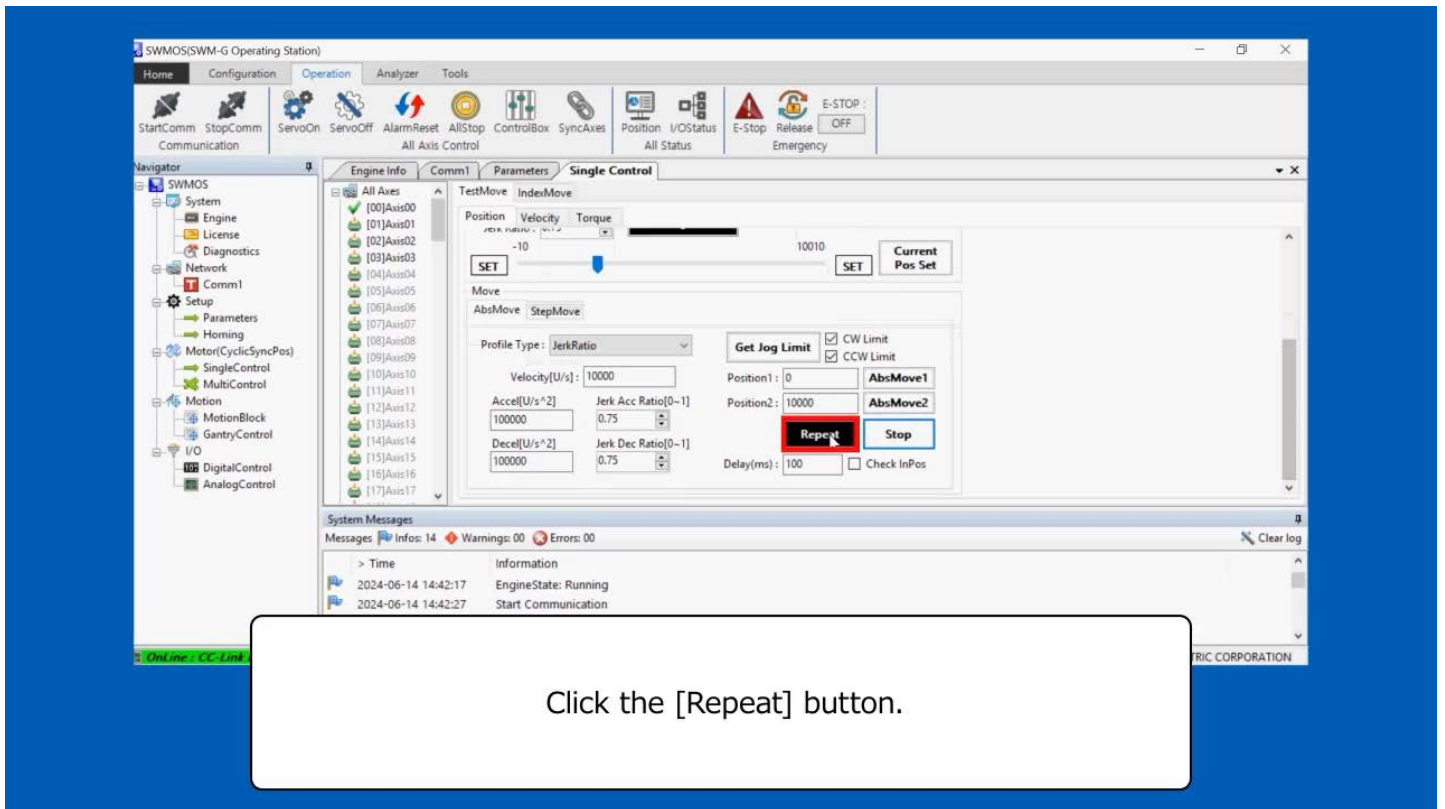


Remove the check mark from [Enable TrackBar Control].

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.



In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

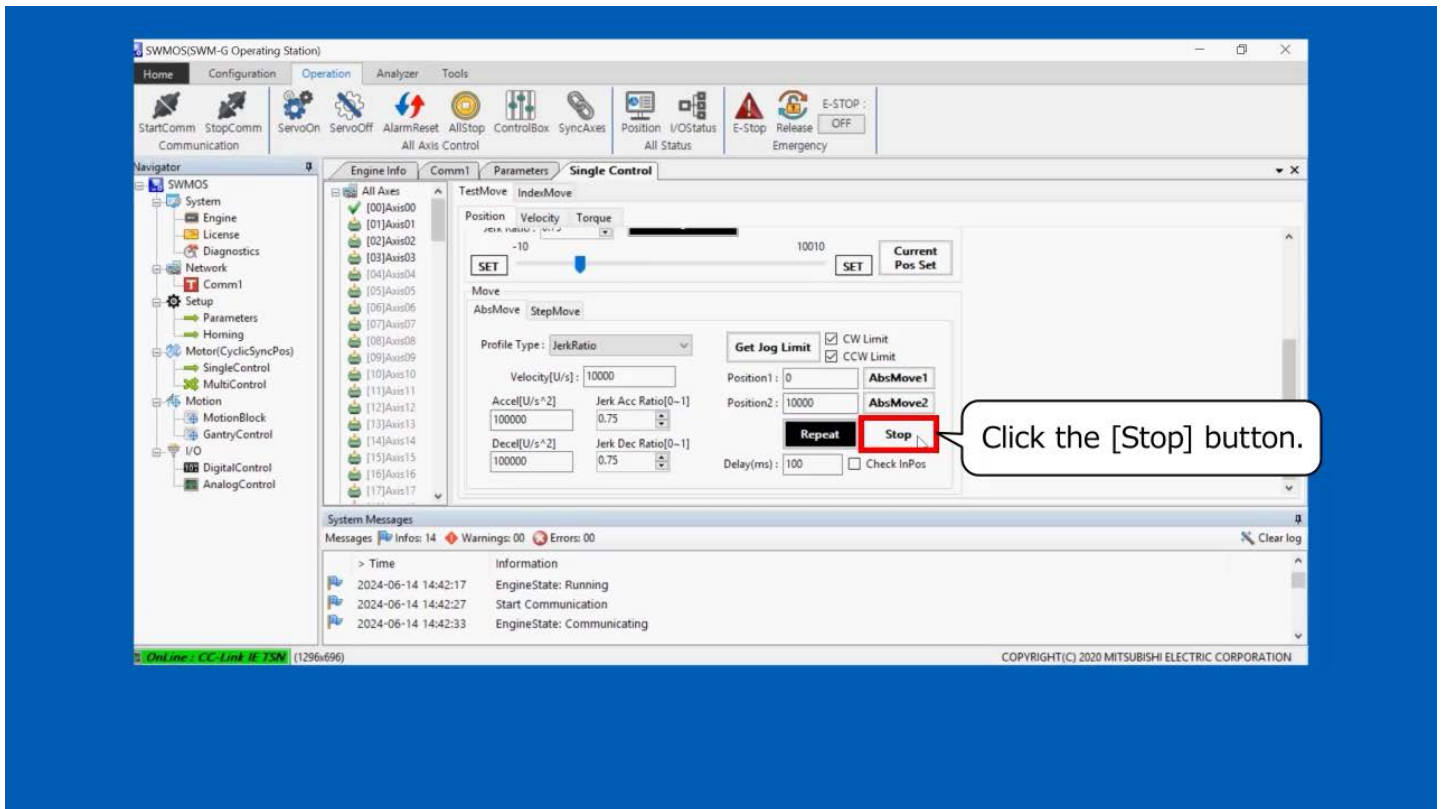


Reciprocating operation is repeated between [Position1] and [Position2].

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

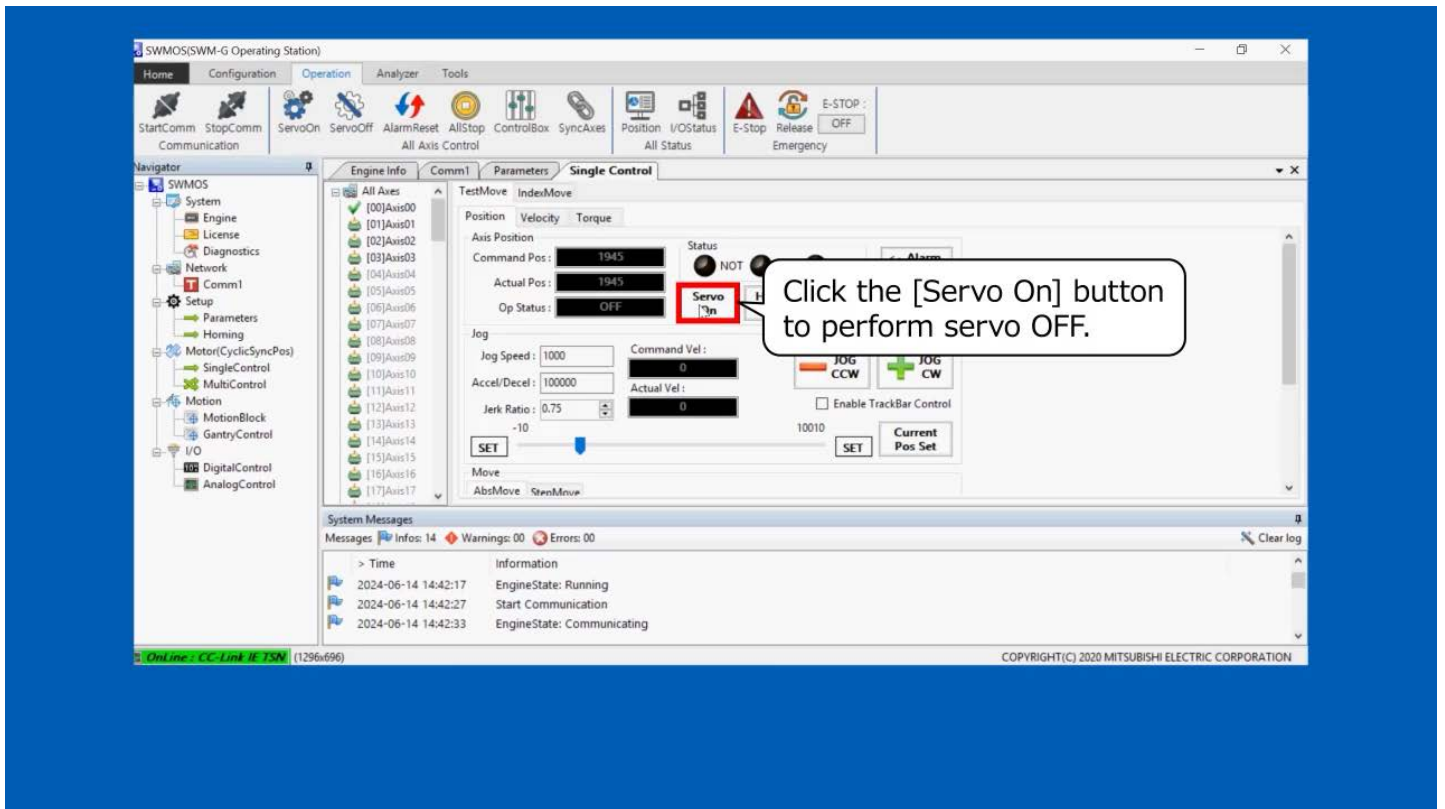
For the single-axis control procedure, see the video below.



In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

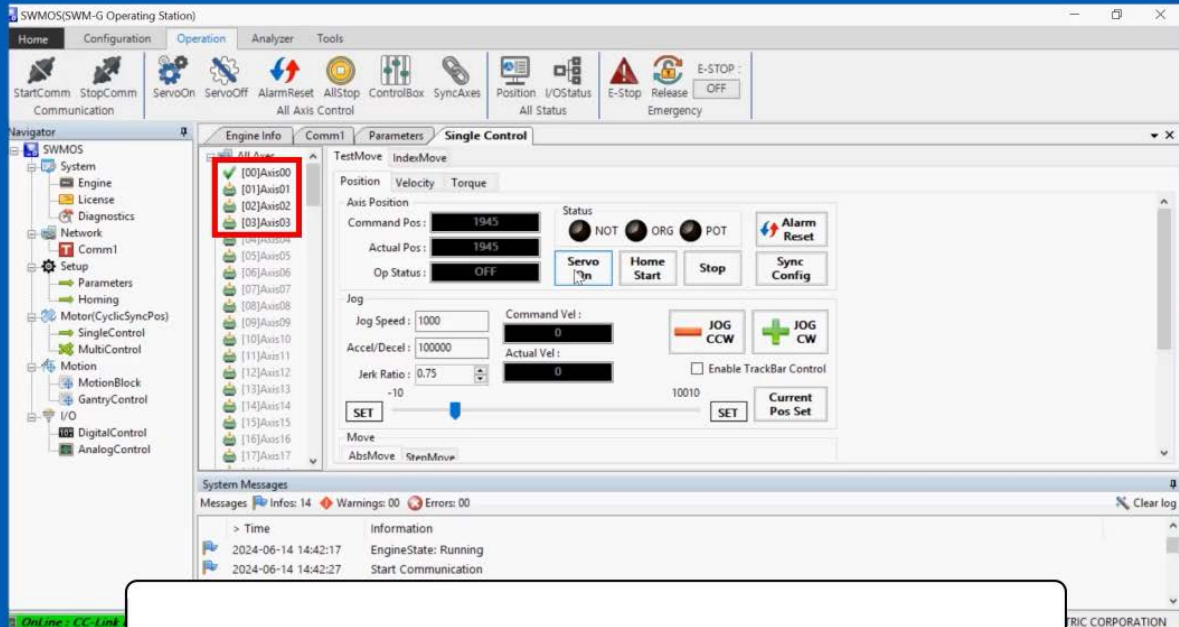
For the single-axis control procedure, see the video below.



In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

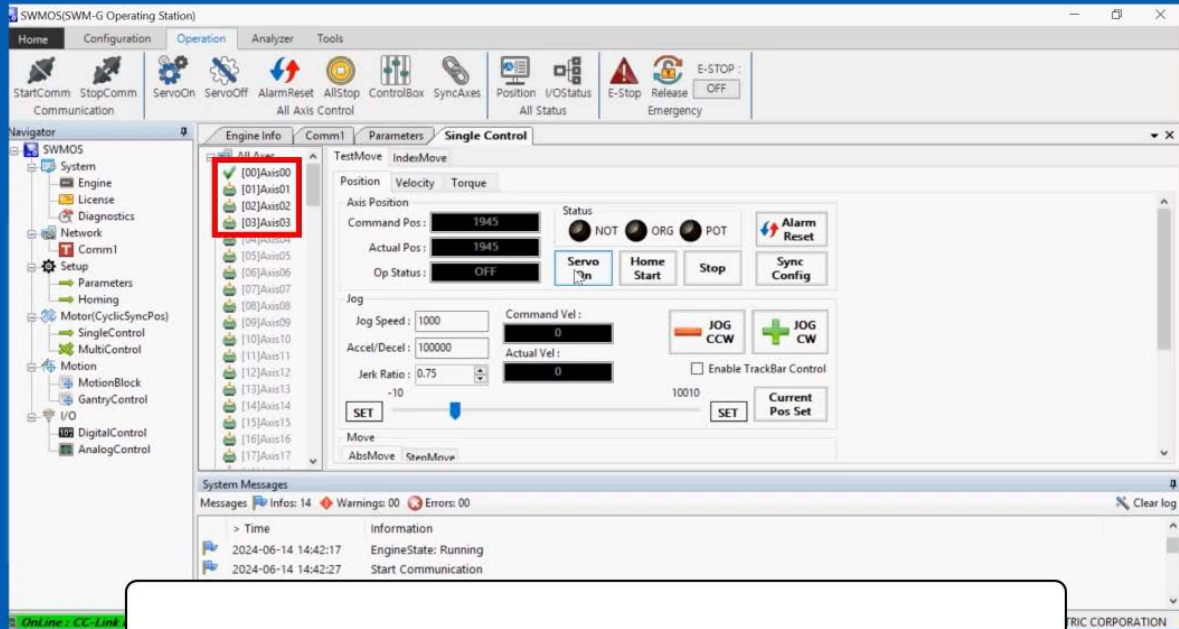


In the same manner as the procedure for "[00]Axis00" (axis 1), other axes can be controlled at the same time.

In the single-axis control, the test operation of position control, speed control, and torque control can be performed. This chapter describes the position control.

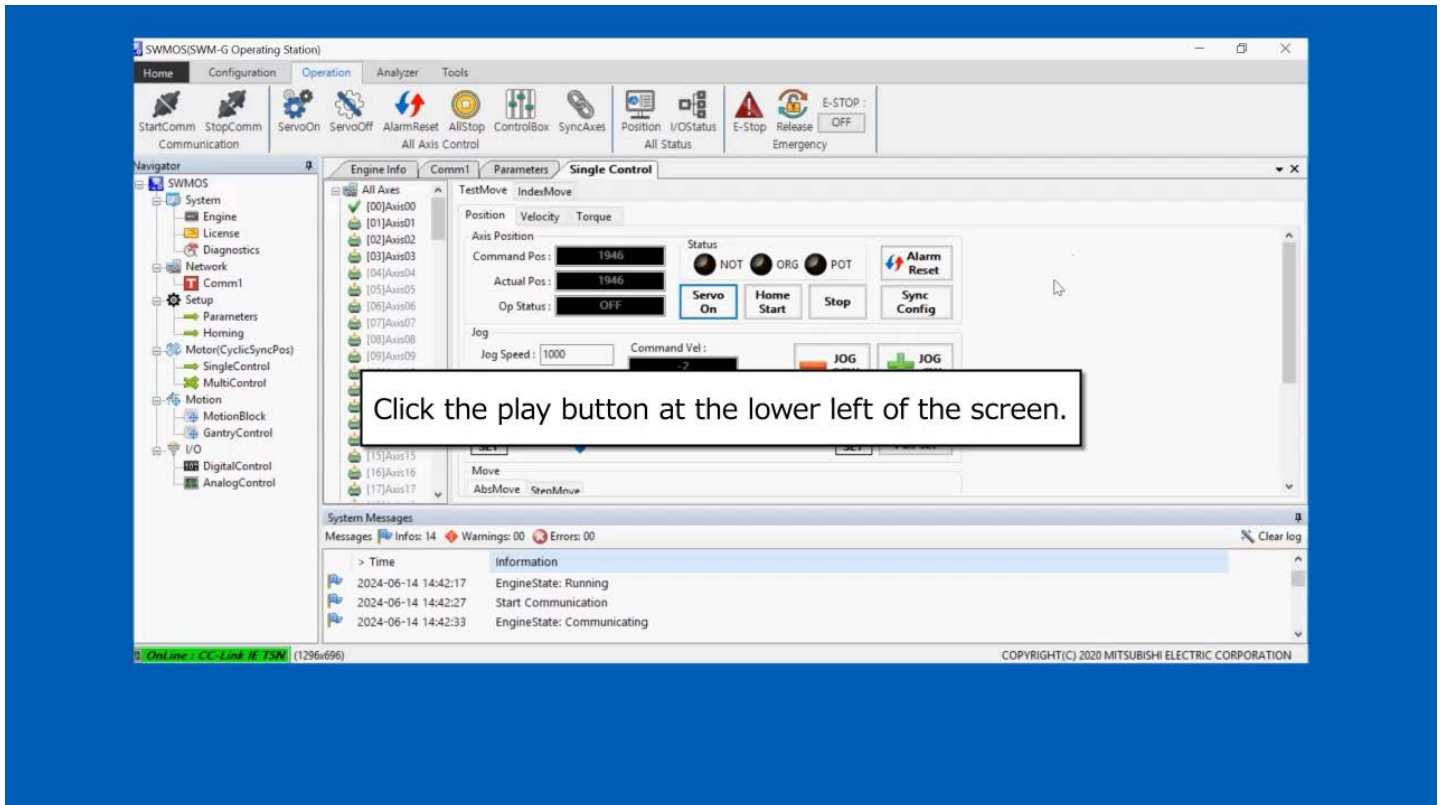
Check that the steps in the previous sections have been completed in the SWMOS screen.

For the single-axis control procedure, see the video below.

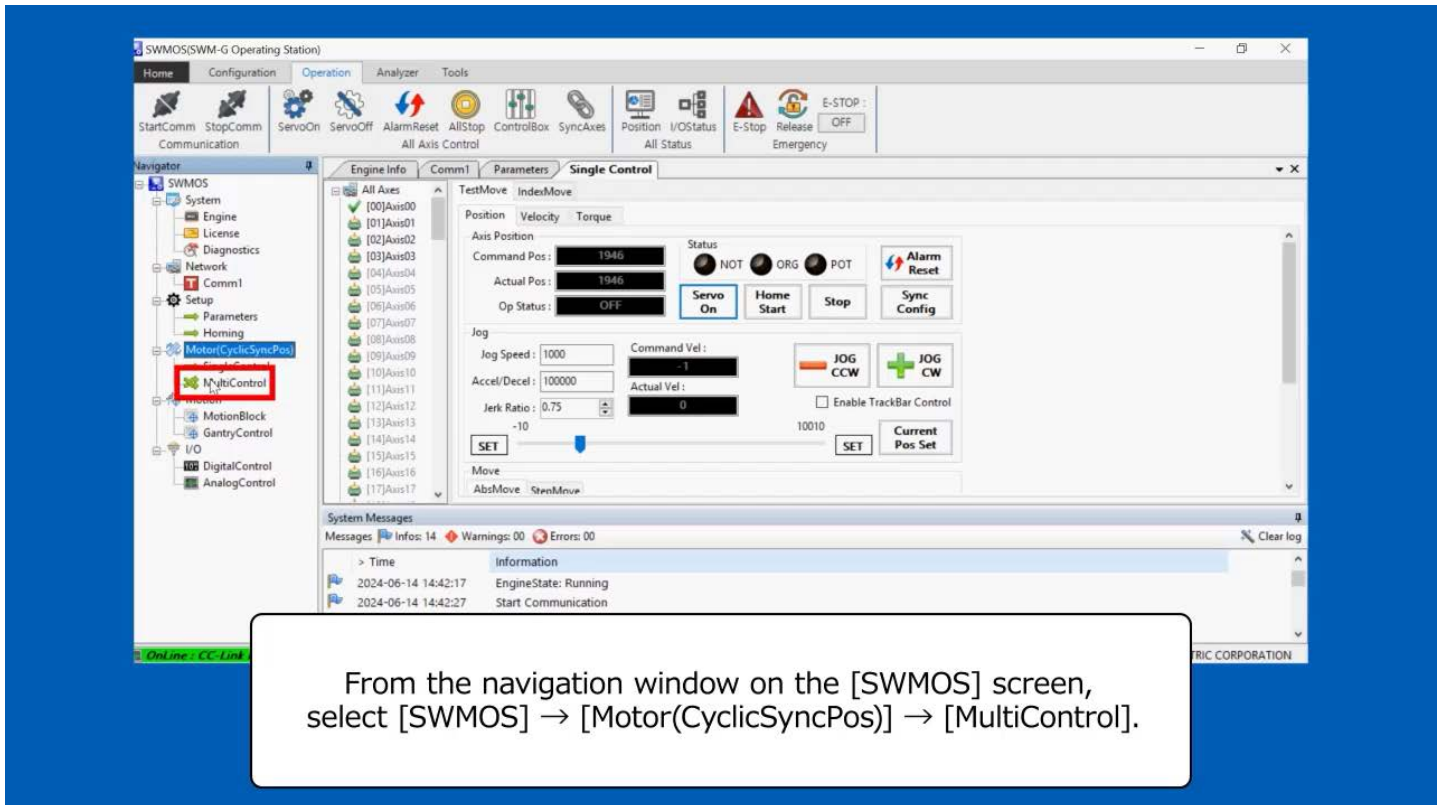


Go to the next page.

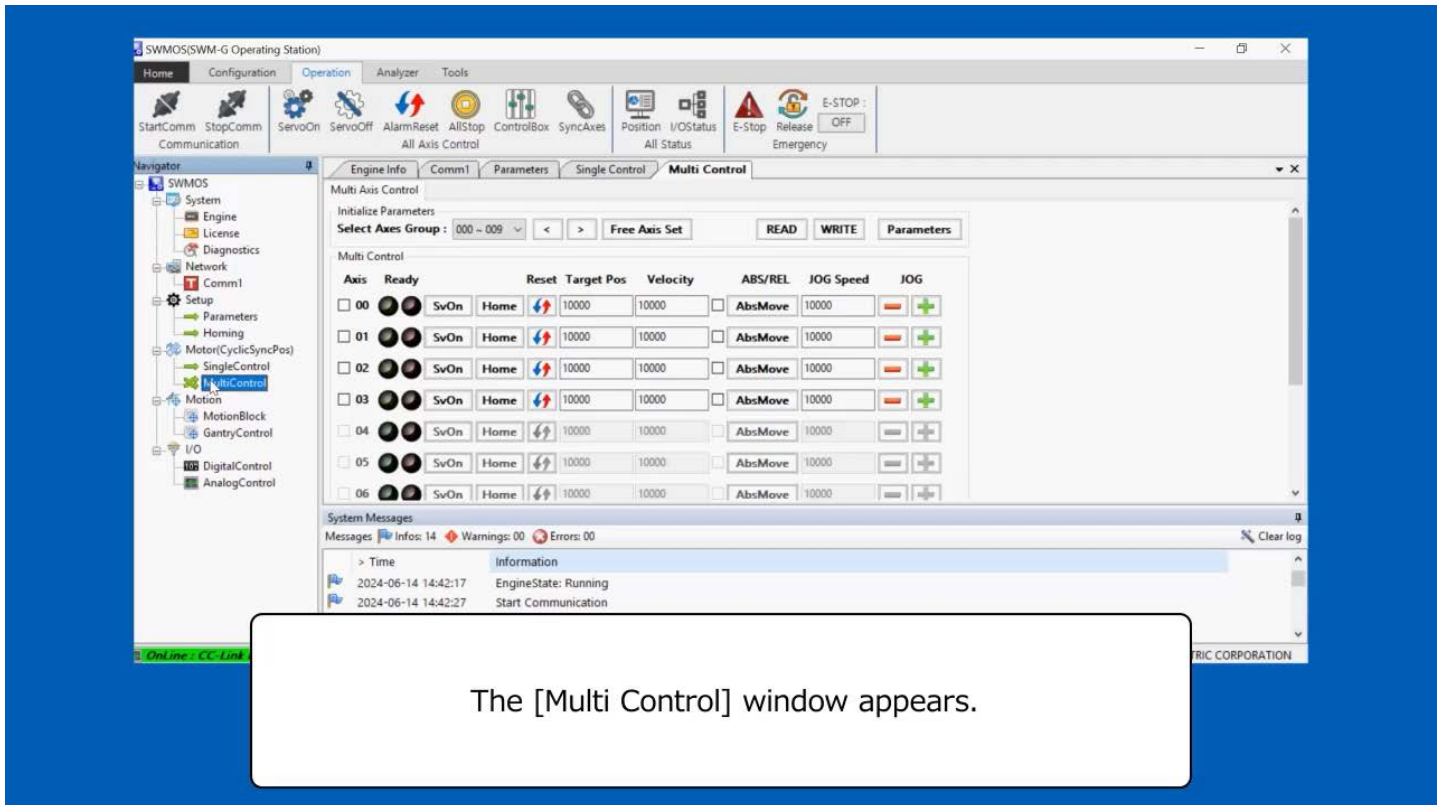
This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.



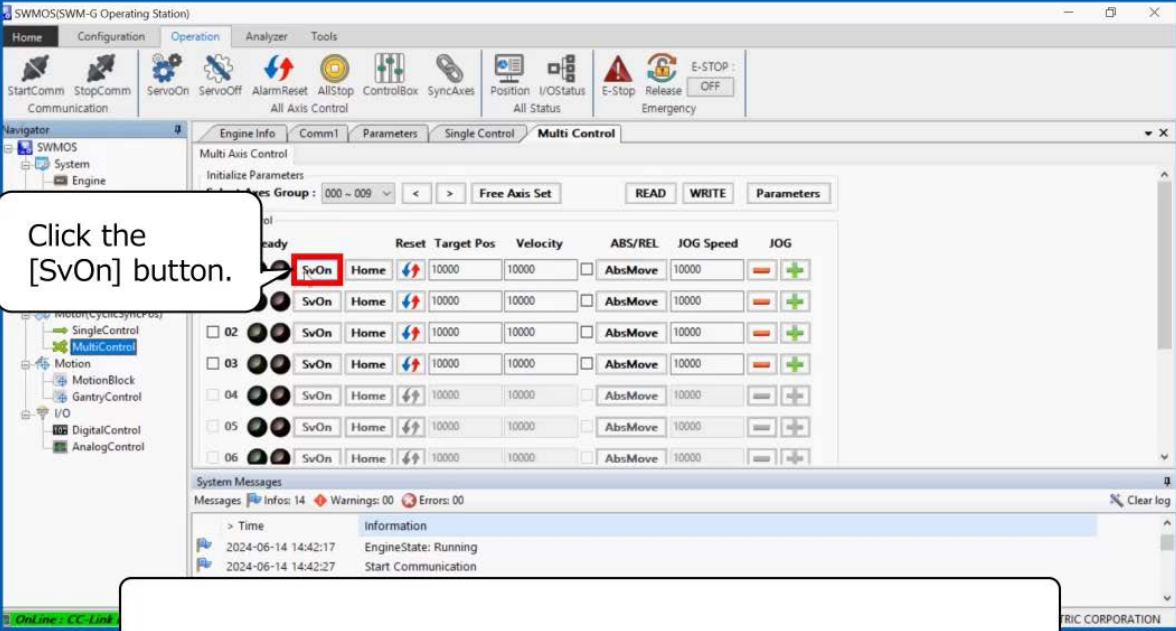
This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.



This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.



This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.



Click the [SvOn] button.

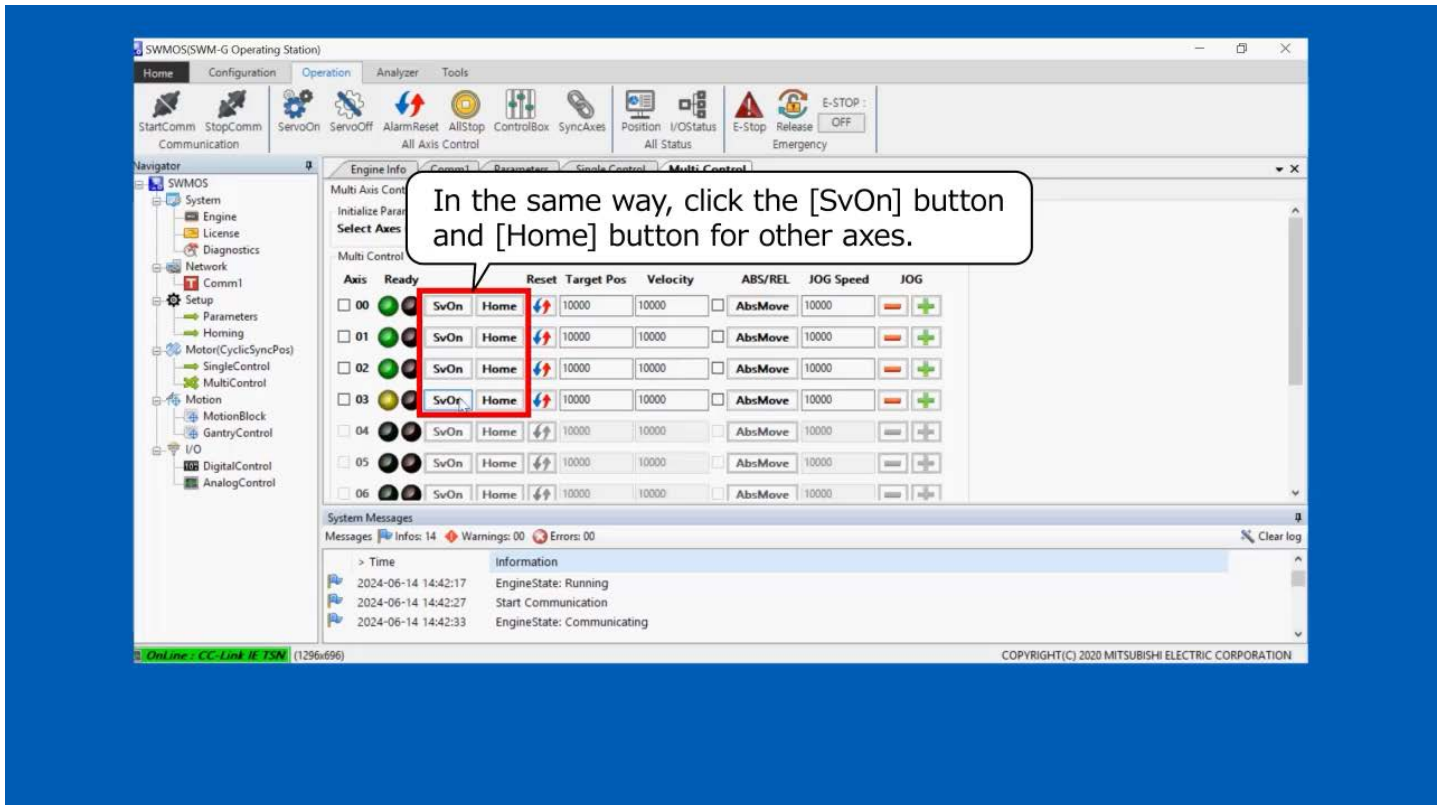
Axis	Reset	Target Pos	Velocity	ABS/REL	JOG Speed	JOG
00	<input type="checkbox"/>	10000	10000	<input type="checkbox"/>	AbsMove 10000	<input type="checkbox"/> <input type="checkbox"/>
01	<input type="checkbox"/>	10000	10000	<input type="checkbox"/>	AbsMove 10000	<input type="checkbox"/> <input type="checkbox"/>
02	<input type="checkbox"/>	10000	10000	<input type="checkbox"/>	AbsMove 10000	<input type="checkbox"/> <input type="checkbox"/>
03	<input type="checkbox"/>	10000	10000	<input type="checkbox"/>	AbsMove 10000	<input type="checkbox"/> <input type="checkbox"/>
04	<input type="checkbox"/>	10000	10000	<input type="checkbox"/>	AbsMove 10000	<input type="checkbox"/> <input type="checkbox"/>
05	<input type="checkbox"/>	10000	10000	<input type="checkbox"/>	AbsMove 10000	<input type="checkbox"/> <input type="checkbox"/>
06	<input type="checkbox"/>	10000	10000	<input type="checkbox"/>	AbsMove 10000	<input type="checkbox"/> <input type="checkbox"/>

System Messages
Messages: Info: 14 Warnings: 00 Errors: 00
Clear log

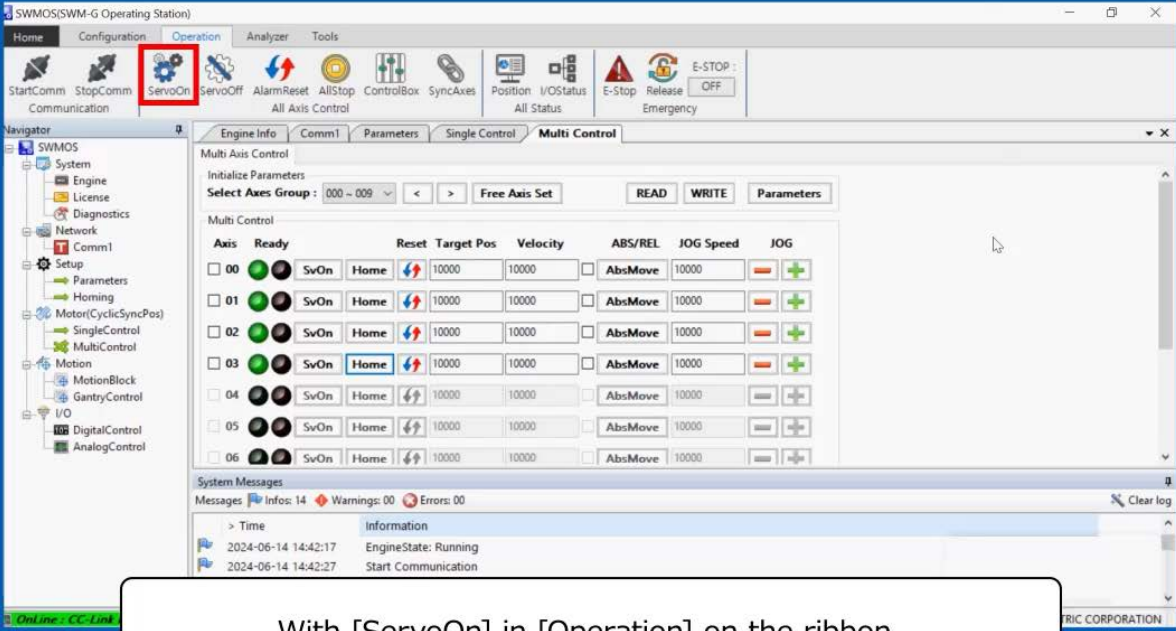
> Time Information
2024-06-14 14:42:17 EngineState: Running
2024-06-14 14:42:27 Start Communication

Click the [SvOn] button in [Multi Control] to switch the servo ON/OFF state for each axis individually.

This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.

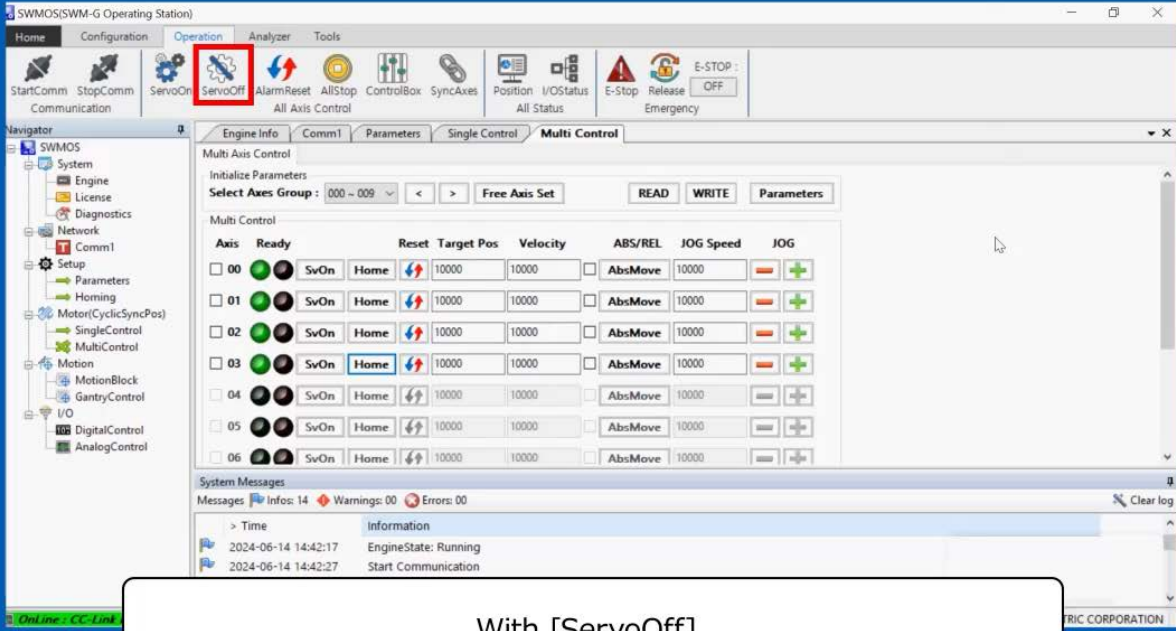


This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.



With [ServoOn] in [Operation] on the ribbon, servo ON can be performed collectively for all set axes, such as servo amplifiers.

This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.



The screenshot shows the SWMOS (SWM-G Operating Station) software interface. The top toolbar includes buttons for StartComm, StopComm, ServoOn, ServoOff (highlighted with a red box), AlarmReset, AllStop, ControlBox, SyncAxes, Position, I/OStatus, E-Stop, Release, and Emergency. The Multi Control panel is active, showing a table of axis parameters for axes 00 through 06. The table includes columns for Axis, Ready, Reset, Target Pos, Velocity, ABS/REL, JOG Speed, and JOG. The System Messages panel at the bottom shows information messages from 2024-06-14 14:42:17 and 2024-06-14 14:42:27.

Axis	Ready	Reset	Target Pos	Velocity	ABS/REL	JOG Speed	JOG
00	<input checked="" type="checkbox"/>	SvOn	Home	10000	10000	<input type="checkbox"/>	AbsMove 10000
01	<input checked="" type="checkbox"/>	SvOn	Home	10000	10000	<input type="checkbox"/>	AbsMove 10000
02	<input checked="" type="checkbox"/>	SvOn	Home	10000	10000	<input type="checkbox"/>	AbsMove 10000
03	<input checked="" type="checkbox"/>	SvOn	Home	10000	10000	<input type="checkbox"/>	AbsMove 10000
04	<input type="checkbox"/>	SvOn	Home	10000	10000	<input type="checkbox"/>	AbsMove 10000
05	<input type="checkbox"/>	SvOn	Home	10000	10000	<input type="checkbox"/>	AbsMove 10000
06	<input type="checkbox"/>	SvOn	Home	10000	10000	<input type="checkbox"/>	AbsMove 10000

System Messages
Messages: Infos: 14 Warnings: 00 Errors: 00
Clear log

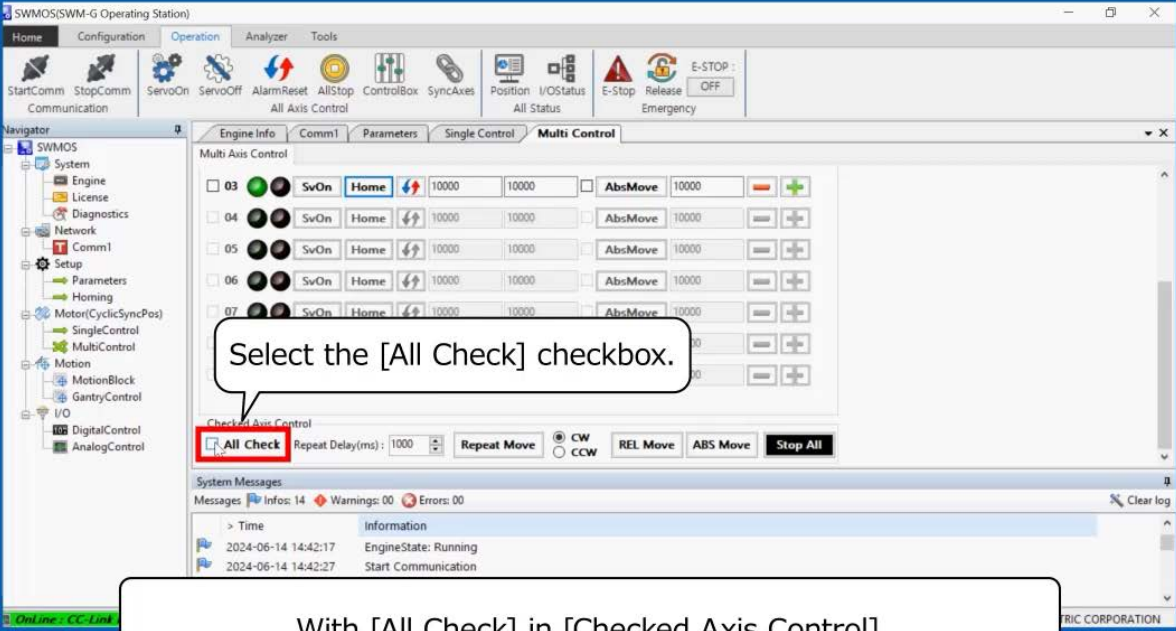
> Time Information
2024-06-14 14:42:17 EngineState: Running
2024-06-14 14:42:27 Start Communication

OnLine - CC-Link

TRIC CORPORATION

With [ServoOff],
servo OFF can be performed collectively for all set axes,
such as servo amplifiers.

This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.

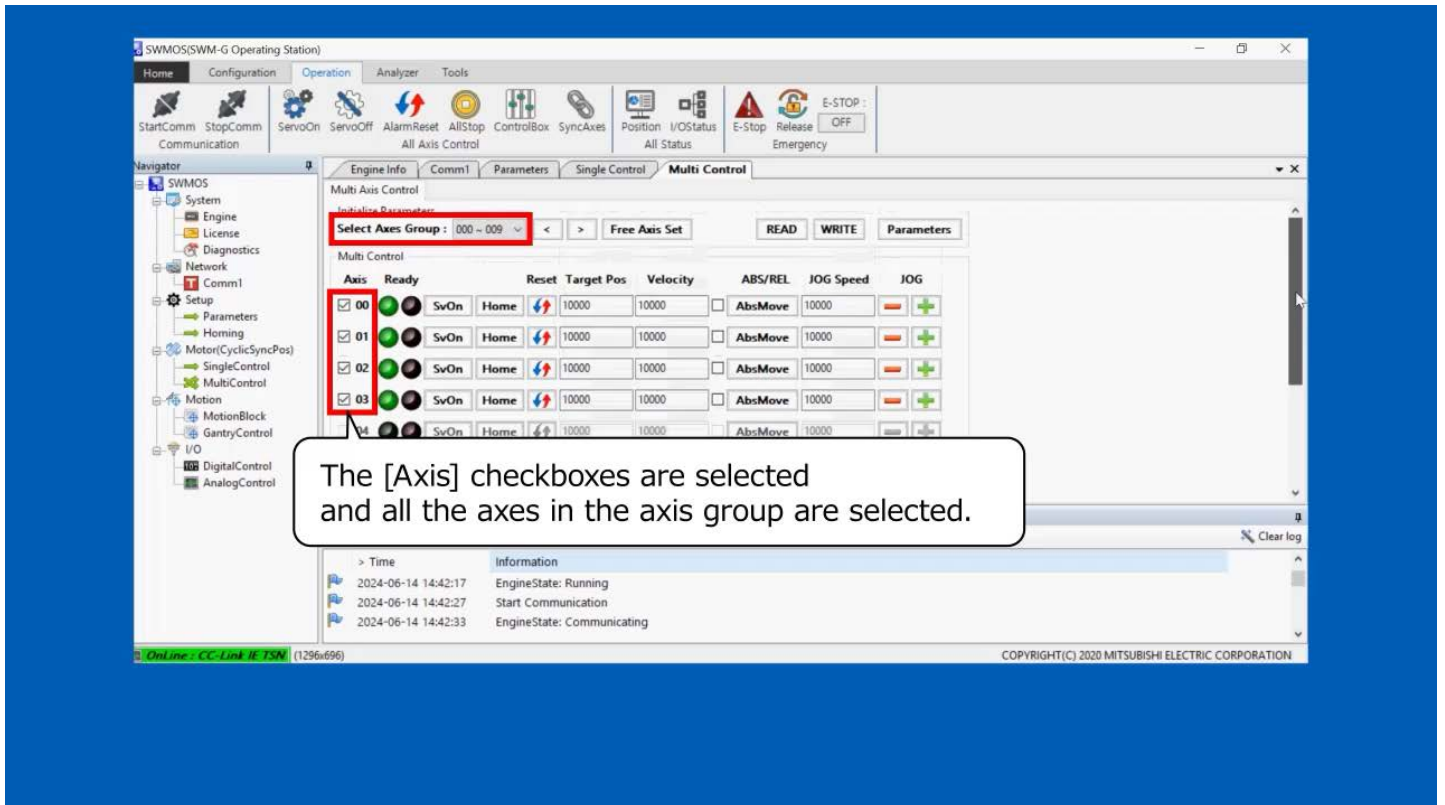


Select the [All Check] checkbox.

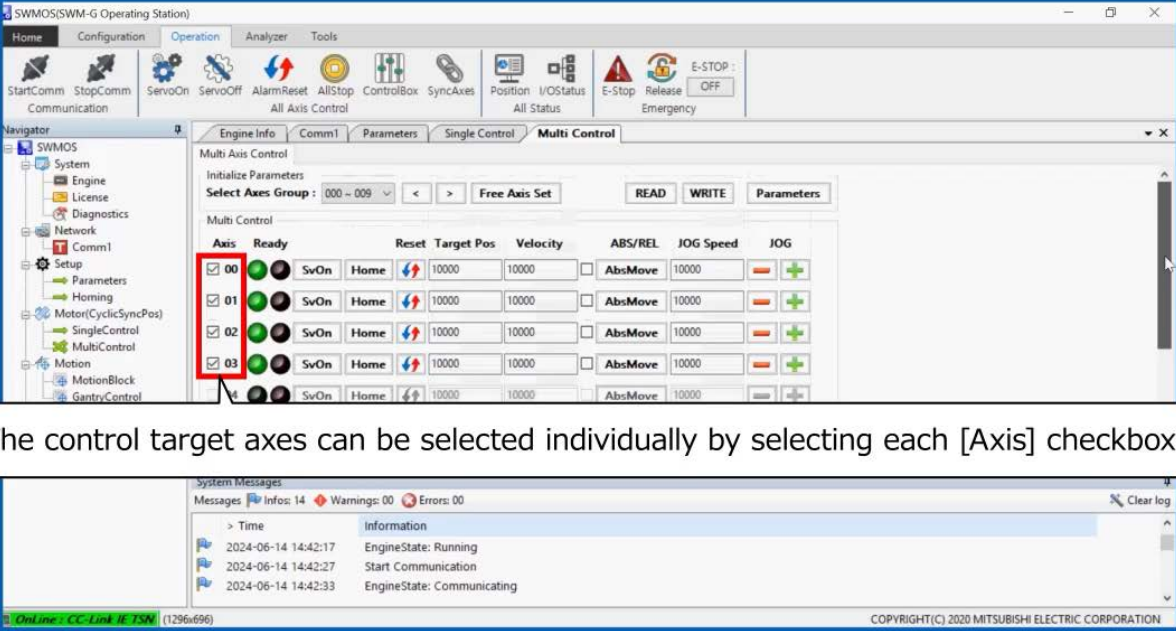
With [All Check] in [Checked Axis Control] in the [Multi Control] window, all axes in an axis group can be specified as control targets.

The screenshot shows the SWMOS (SWM-G Operating Station) software interface. The 'Multi Control' window is active, displaying a table of axis control parameters. The 'All Check' checkbox is highlighted with a red box. A callout bubble points to it with the text 'Select the [All Check] checkbox.' Below the table, there are controls for 'Repeat Delay(ms): 1000', 'Repeat Move', 'REL Move', 'ABS Move', and 'Stop All'. The 'System Messages' section at the bottom shows two messages: 'EngineState: Running' at 2024-06-14 14:42:17 and 'Start Communication' at 2024-06-14 14:42:27.

This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.



This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.



The control target axes can be selected individually by selecting each [Axis] checkbox.

Axis	Ready	Reset	Target Pos	Velocity	ABS/REL	JOG Speed	JOG
<input checked="" type="checkbox"/> 00		SvOn Home	10000	10000	<input type="checkbox"/>	AbsMove 10000	
<input checked="" type="checkbox"/> 01		SvOn Home	10000	10000	<input type="checkbox"/>	AbsMove 10000	
<input checked="" type="checkbox"/> 02		SvOn Home	10000	10000	<input type="checkbox"/>	AbsMove 10000	
<input checked="" type="checkbox"/> 03		SvOn Home	10000	10000	<input type="checkbox"/>	AbsMove 10000	

This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.

Click the [ABS Move] button.

With the [ABS Move] button in [Checked Axis Control], the absolute position control of the selected axes can be started/stopped collectively.

This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.

Click the [REL Move] button.

With the [REL Move] button, the relative position control of the selected axes can be started/stopped collectively.

This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.

Point

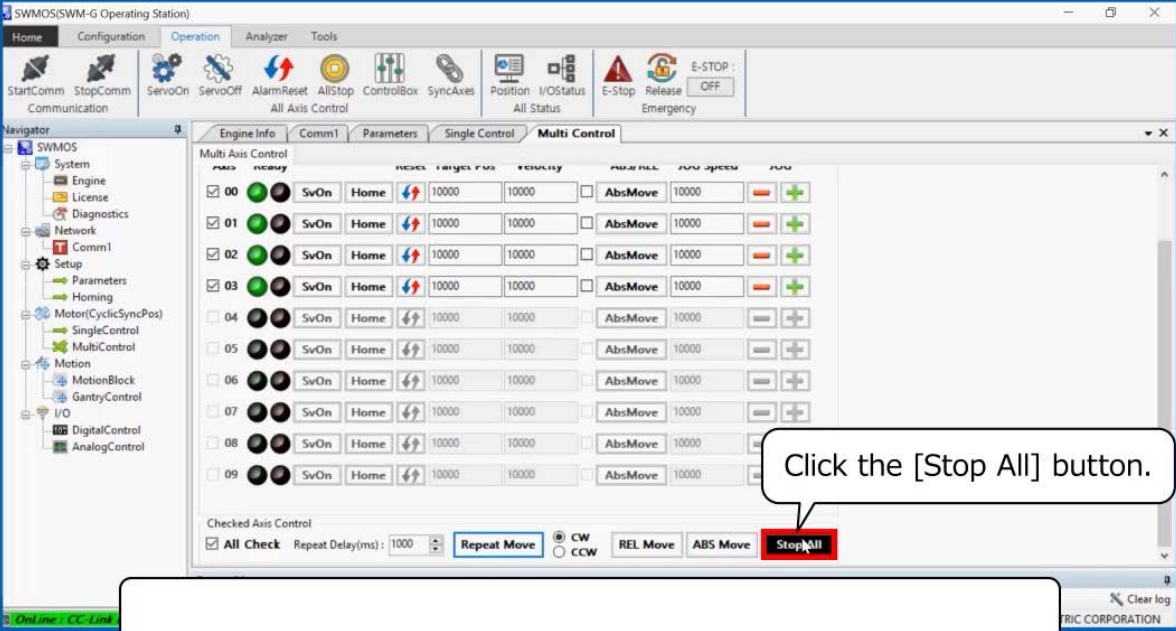
When the [REL Move]/[ABS Move] buttons in [Checked Axis Control] are used, whether or not the checkboxes in the "ABS/REL" column in [Multi Control] are selected is ignored.

This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.

Click the [Repeat Move] button.

With the [Repeat Move] button, reciprocating operation of the selected axes is performed collectively.

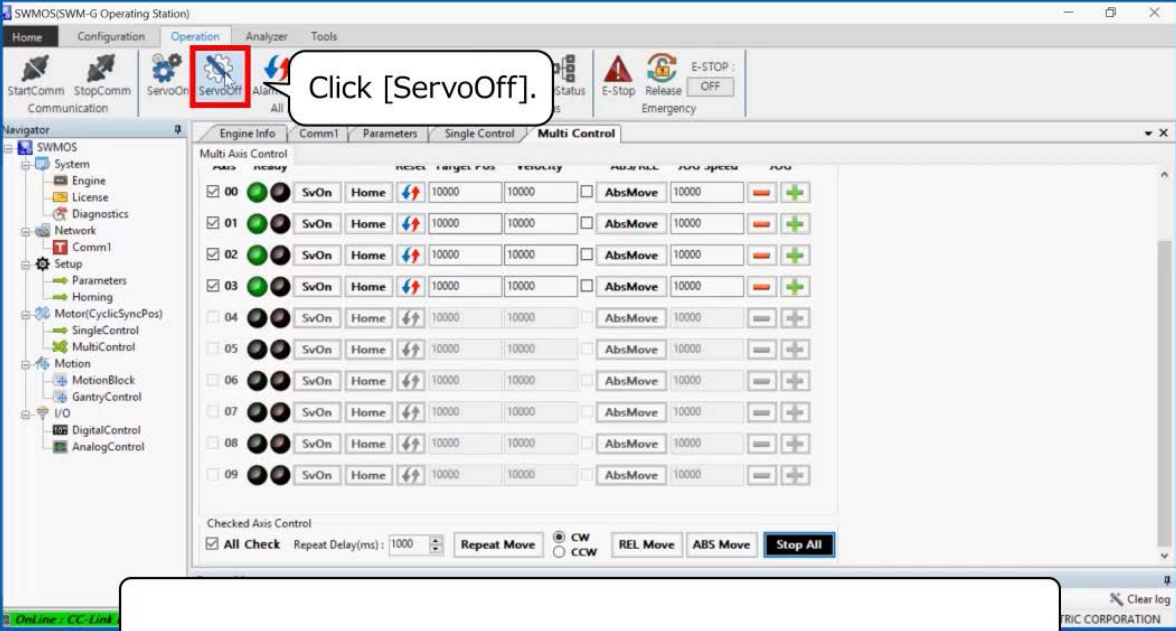
This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.



Click the [Stop All] button.

With the [Stop All] button, the operation of the selected axes is stopped collectively.

This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.



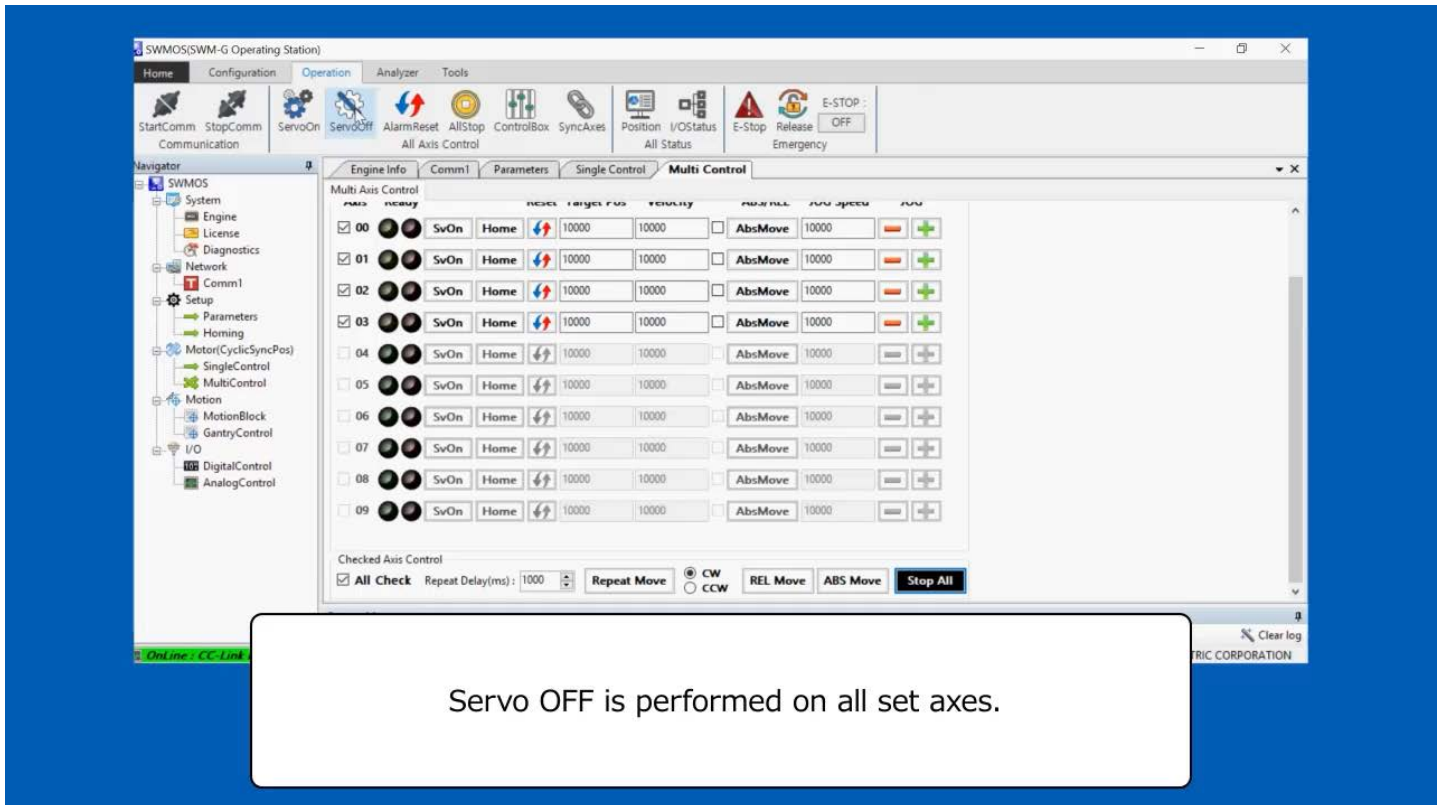
Click [ServoOff].

AXIS	STATUS	MODE	HOME	REVERSE	TARGET POS	ACTUAL POS	ABS MOVE	ABS SPEED	ABS	
00	<input checked="" type="checkbox"/>	SvOn	Home	↔	10000	10000	<input type="checkbox"/>	AbsMove	10000	+
01	<input checked="" type="checkbox"/>	SvOn	Home	↔	10000	10000	<input type="checkbox"/>	AbsMove	10000	+
02	<input checked="" type="checkbox"/>	SvOn	Home	↔	10000	10000	<input type="checkbox"/>	AbsMove	10000	+
03	<input checked="" type="checkbox"/>	SvOn	Home	↔	10000	10000	<input type="checkbox"/>	AbsMove	10000	+
04	<input type="checkbox"/>	SvOn	Home	↔	10000	10000	<input type="checkbox"/>	AbsMove	10000	+
05	<input type="checkbox"/>	SvOn	Home	↔	10000	10000	<input type="checkbox"/>	AbsMove	10000	+
06	<input type="checkbox"/>	SvOn	Home	↔	10000	10000	<input type="checkbox"/>	AbsMove	10000	+
07	<input type="checkbox"/>	SvOn	Home	↔	10000	10000	<input type="checkbox"/>	AbsMove	10000	+
08	<input type="checkbox"/>	SvOn	Home	↔	10000	10000	<input type="checkbox"/>	AbsMove	10000	+
09	<input type="checkbox"/>	SvOn	Home	↔	10000	10000	<input type="checkbox"/>	AbsMove	10000	+

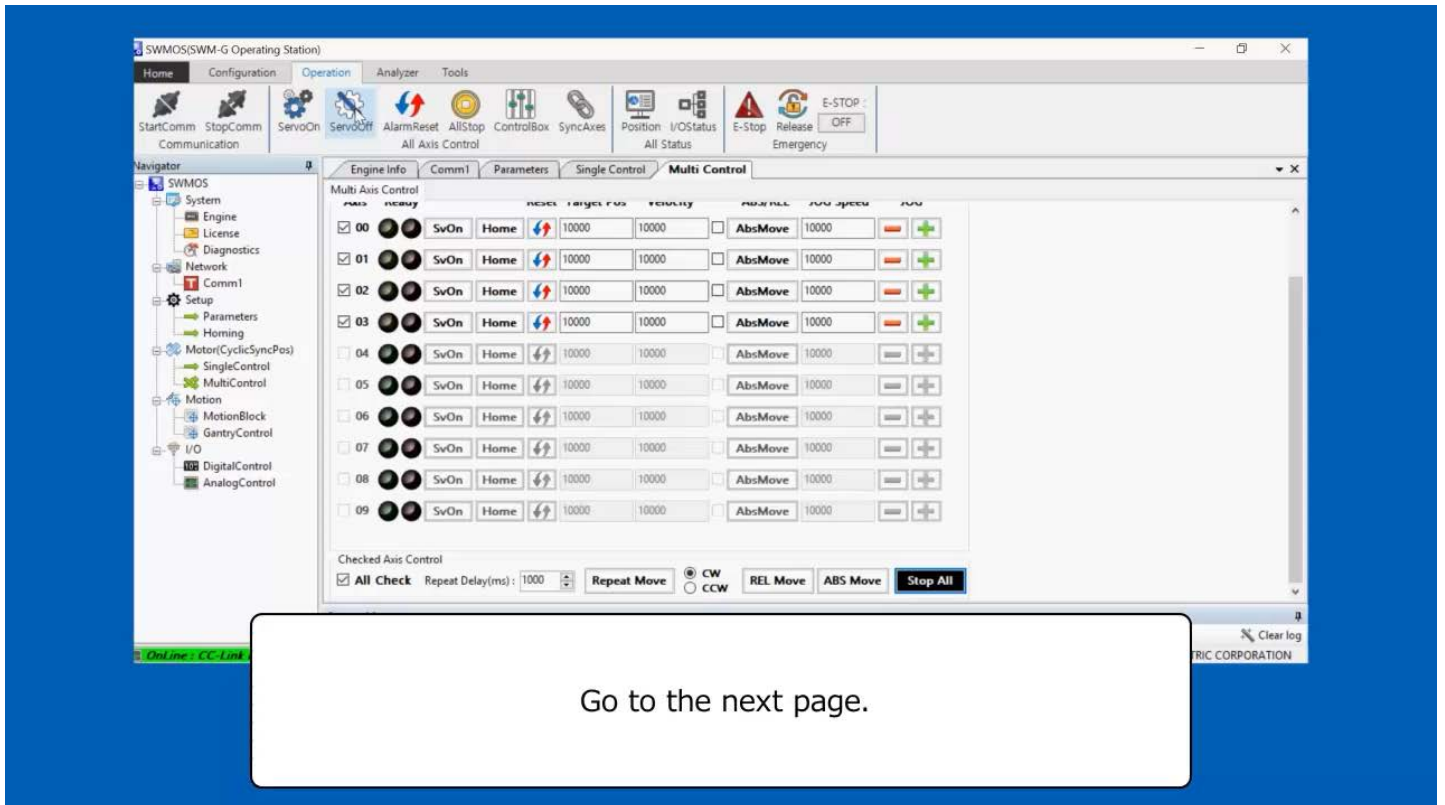
Checked Axis Control
 All Check Repeat Delay(ms): 1000 Repeat Move CW CCW REL Move ABS Move Stop All

With [ServoOff] in [Operation] on the ribbon, the operation is finished.

This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.



This chapter describes the multi-axis control. To control multiple axes at once, configure the settings in [MultiControl]. For the procedure, see the video below.



In this chapter, you have learned:

- System Configuration
- Platform Selection
- Master Setting
- Remote Station Setting
- Parameter Setting
- Single-Axis Control
- Multi-Axis Control

Point

System Configuration	The target system in this Chapter consists of a personal computer, 1-axis servo amplifier, 3-axis servo amplifier, and others.
Platform Selection	Platform selection is the setting required for communication between the personal computer and the CC-Link IE TSN remote station.
Master Setting	Master setting is one of the settings required to configure a network. Mainly, set the communication cycle and IP address.
Remote Station Setting	In the remote station setting, set the devices that configure the network. The remote station setting can be configured using the automatic detection function or additional function.
Parameter Setting	In the parameter setting, set the basic parameters such as the operation mode, gear ratio, and home position return setting of the axis. Write the set parameters to the SWM-G engine. In addition, the parameter setting can be exported and imported.
Single-Axis Control	In the single-axis control, the test operation of position control, speed control, and torque control can be performed. In this chapter, you have learned the servo ON of the position control, home position return, JOG operation, and positioning operation.
Multi-Axis Control	In the multi-axis control, the test operation of multiple axes can be performed simultaneously. All axes can be controlled at once or any axis can be controlled individually.

This chapter describes the programming procedures and basic programs using a sample project. It also describes the requirements to use the sample project. When using the program examples described in this chapter in an actual system, fully verify that there are no control problems with the system.

- 3.1 Construction of the Target System
- 3.2 Parameter Setting
- 3.3 Operation Details of the Sample Program
- 3.4 Opening the Sample Program
- 3.5 Parameter and Positioning Data Setting
- 3.6 Executing the Build
- 3.7 Executing the Program
- 3.8 Summary of This Chapter

■ Supplementary document

For how to check the SWM-G manuals (SWM-G User Manual (HELP), user's manual, and operating manual) and the explanation of the sample program "03.Basic Motion" included in SWM-G, refer to the separate PDF. It can be downloaded from the following link.

[How to check the SWM-G manuals](#)

[Explanation of the sample program "03.Basic Motion"](#)

3.1

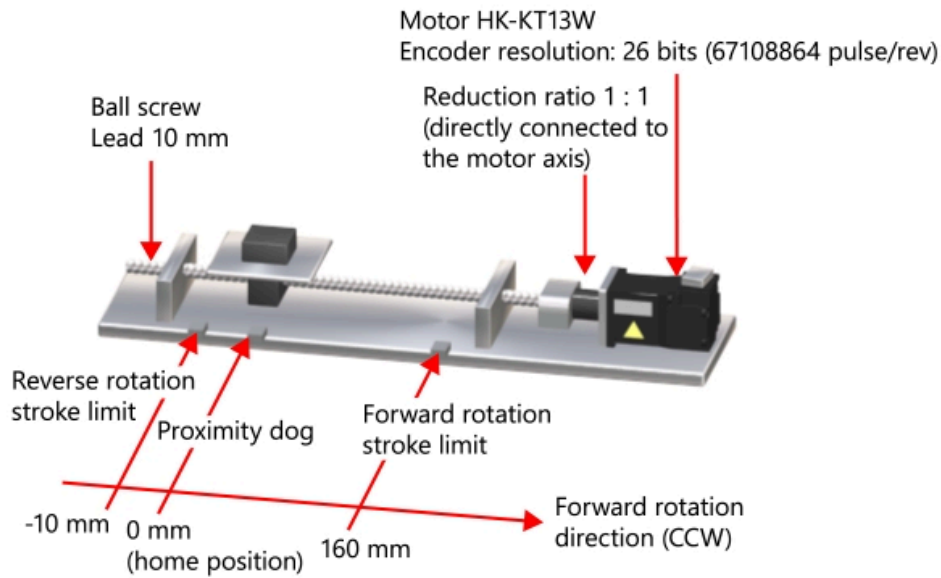
Construction of the Target System

This section describes the hardware configuration of the target system.

3.1.1

Machine configuration

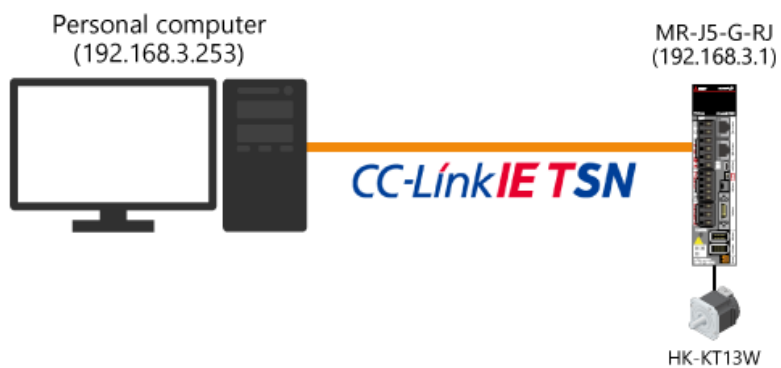
Use a 1-axis ball screw mechanism. The specification of the machine is as follows.



3.1.2

System configuration

The configuration of the target system is as follows.

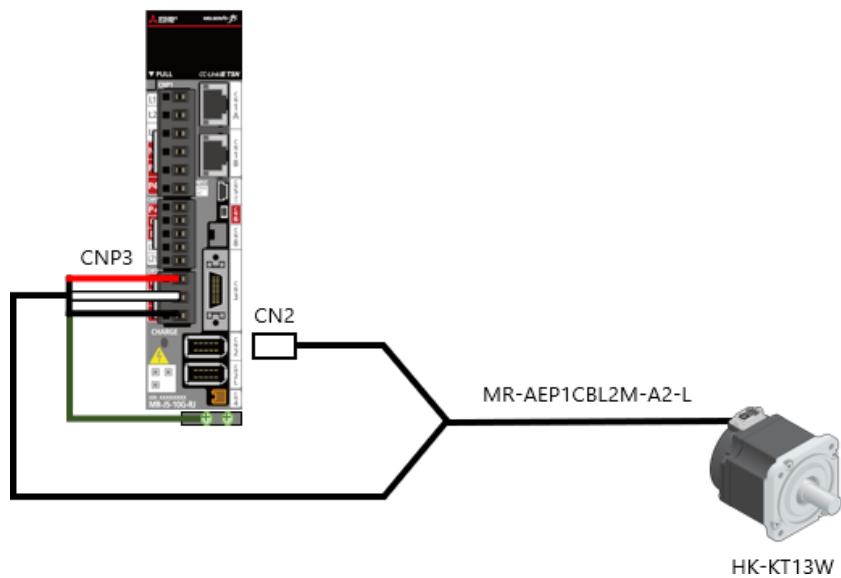


3.1.3

Connection between the servo motor and servo amplifier

A single cable type option MR-AEP1CBL2M-A2-L is used for the power cable and encoder cable of the servo motor.

MR-J5-G-RJ




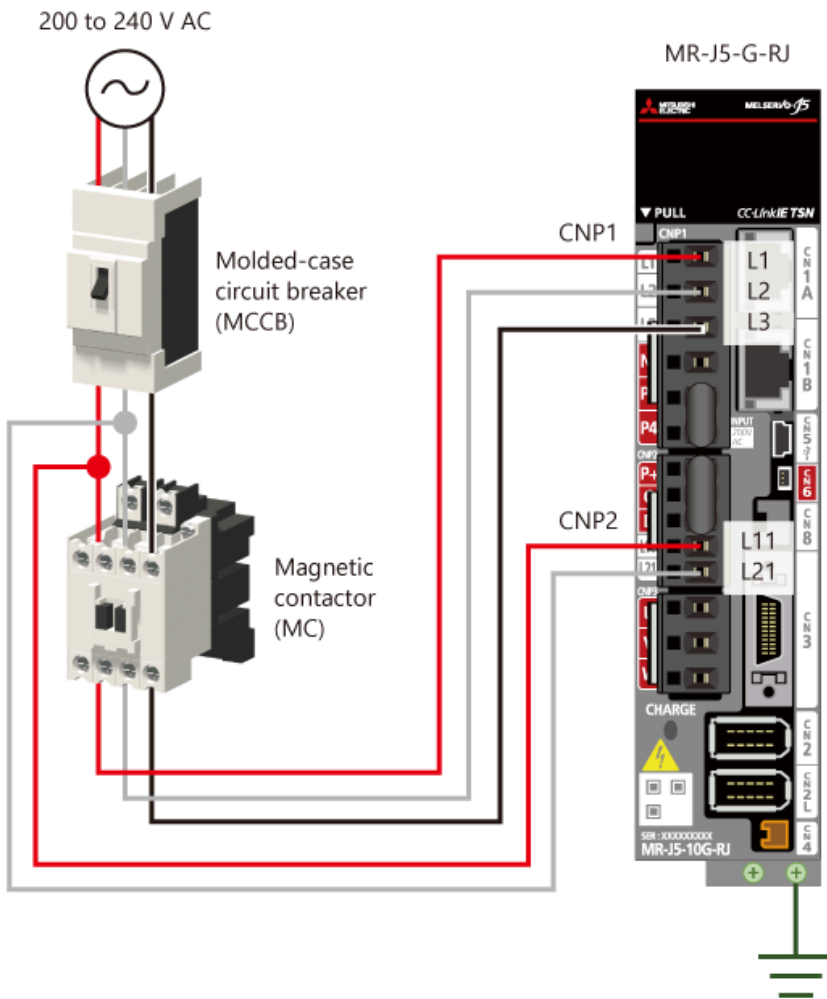
3.1.4 Connection between the power supply and servo amplifier

Wire the power supply to the main circuit power supply (L1, L2, L3) and control circuit power supply (L11, L21) of the servo amplifier.

The following shows a schematic diagram. The actual wiring and applicable cable size differ depending on the capacity. For details, refer to the user's manual (hardware) of the servo amplifier.

- Use a molded-case circuit breaker (MCCB) with the input cables of the main circuit power supply.
- Always connect a magnetic contactor (MC) between the main circuit power supply and the L1/L2/L3 contacts of the servo amplifier.

 User's manual (Hardware) of the servo amplifier to be used



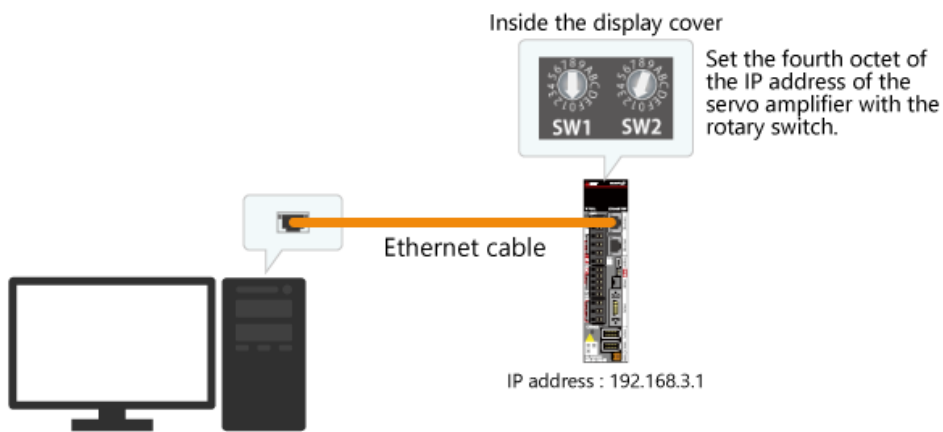
3.1.5

Wiring of network cables

Wire the network cables (Ethernet cables).

Use the Ethernet cables that meet the following standards.

Communication speed	Ethernet cable	Connector	Standard
1Gbps	Category 5e or higher, (double shielded/STP) straight cable	RJ45 connector	Cable that meets the following standards. <ul style="list-style-type: none">• IEEE802.3(1000BASE-T)• ANSI/TIA/EIA-568-B (Category 5e)



3.1.6

Wiring of the I/O circuit of the servo amplifier

Wire the I/O circuit of the servo amplifier as shown below.

Wire the proximity dog, forward/reverse rotation limits, and forced stop.

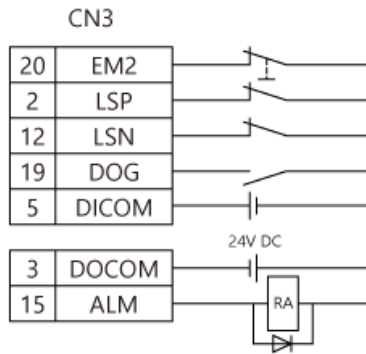
In addition, configure the circuit so that the magnetic contactor is turned off by the ALM output.

MR-J5-G-RJ



CN8
(Note)

CN3



(Note) Since the STO function is not used in this course, do not remove the CN8 short-circuit connector attached with the servo amplifier.

This section describes the procedures for the parameter setting of the servo amplifier (servo parameter setting).
Configure the servo parameter setting using MR Configurator2.
Install MR Configurator2 in the personal computer to be used in advance.
For details of how to use MR Configurator2, refer to the following help.

 [MR Configurator2 Help](#)

3.2.1

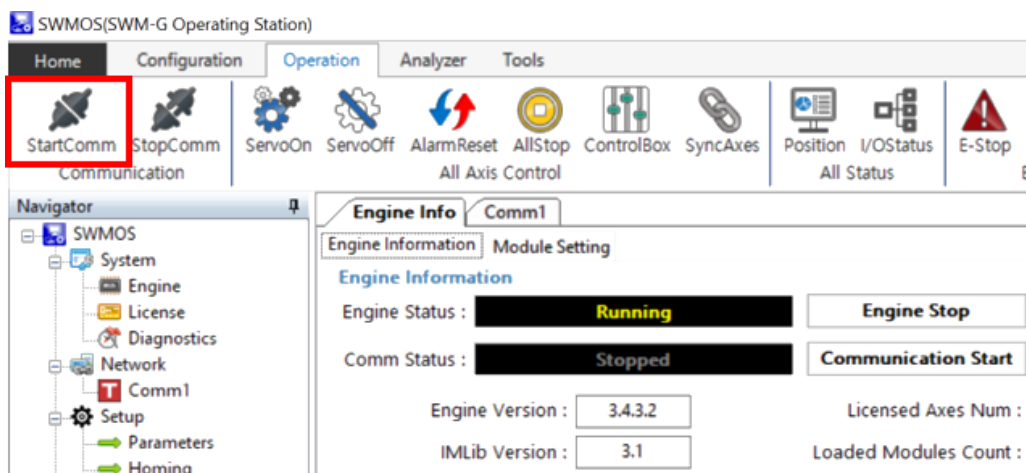
How to use the IP communication function

This section describes how to use the IP communication function of MR Configurator2.

The IP communication function enables the communications with devices on the CC-Link IE TSN network via the SWM-G engine.

Servo parameters can be set via the CC-Link IE TSN network.

1. Start SWMOS of SWM-G.
2. Click [Operation] → [StartComm] in the ribbon.
 - The communication starts.



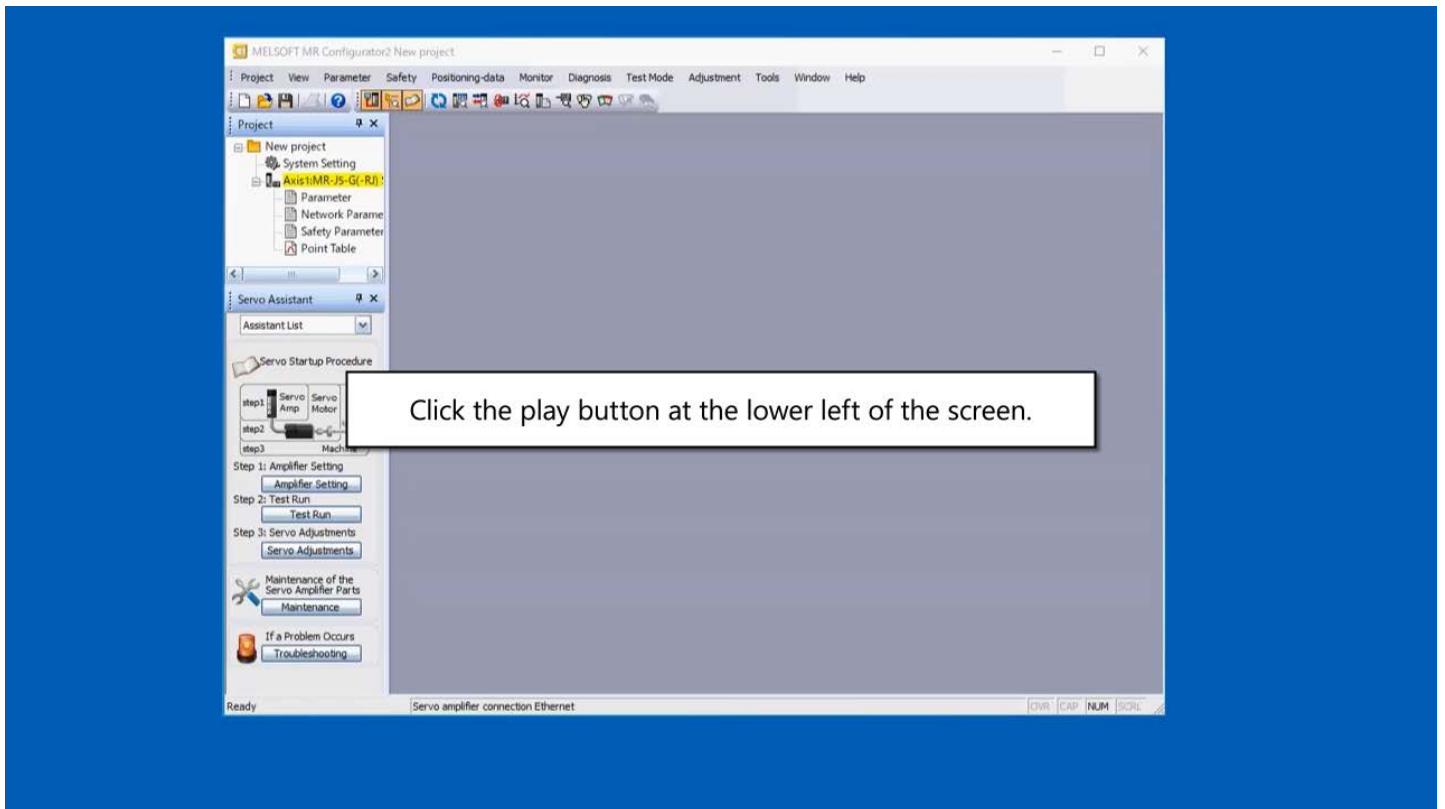
3.2.2

Connection between MR Configurator2 and the servo amplifier

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.



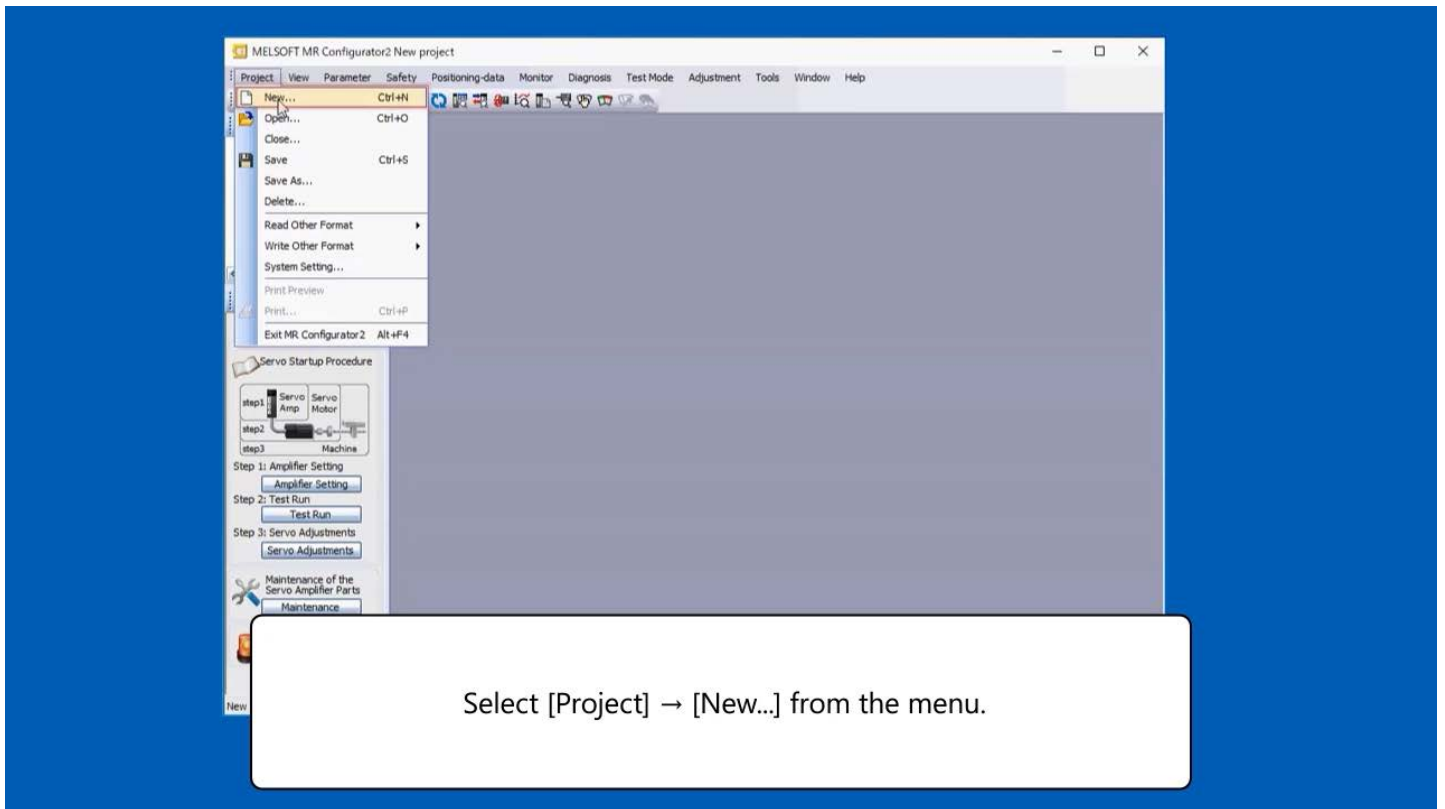
3.2.2

Connection between MR Configurator2 and the servo amplifier

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

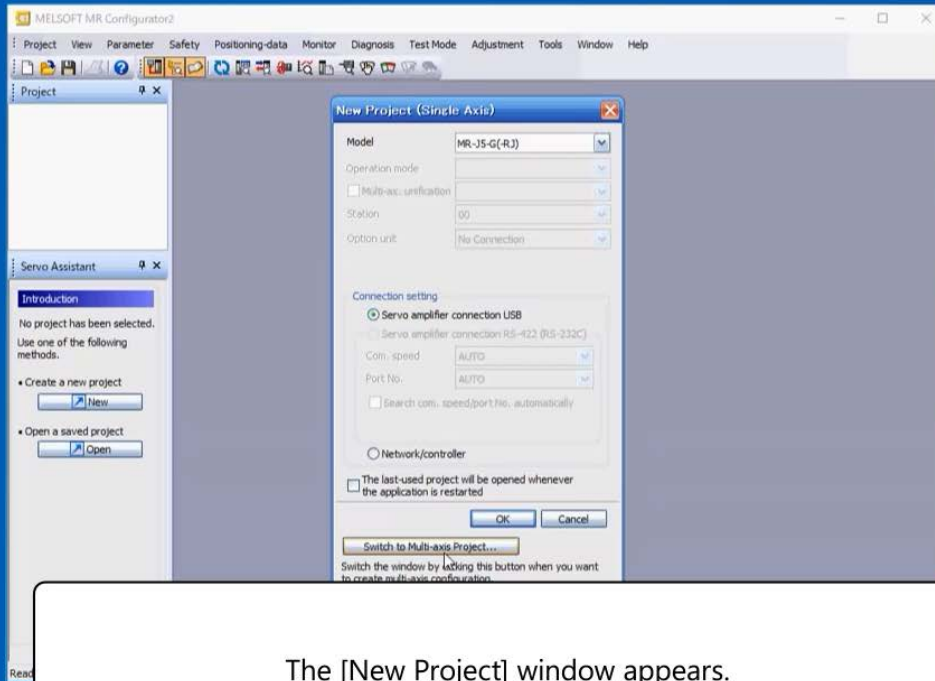
For the procedure, see the video below.



This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.

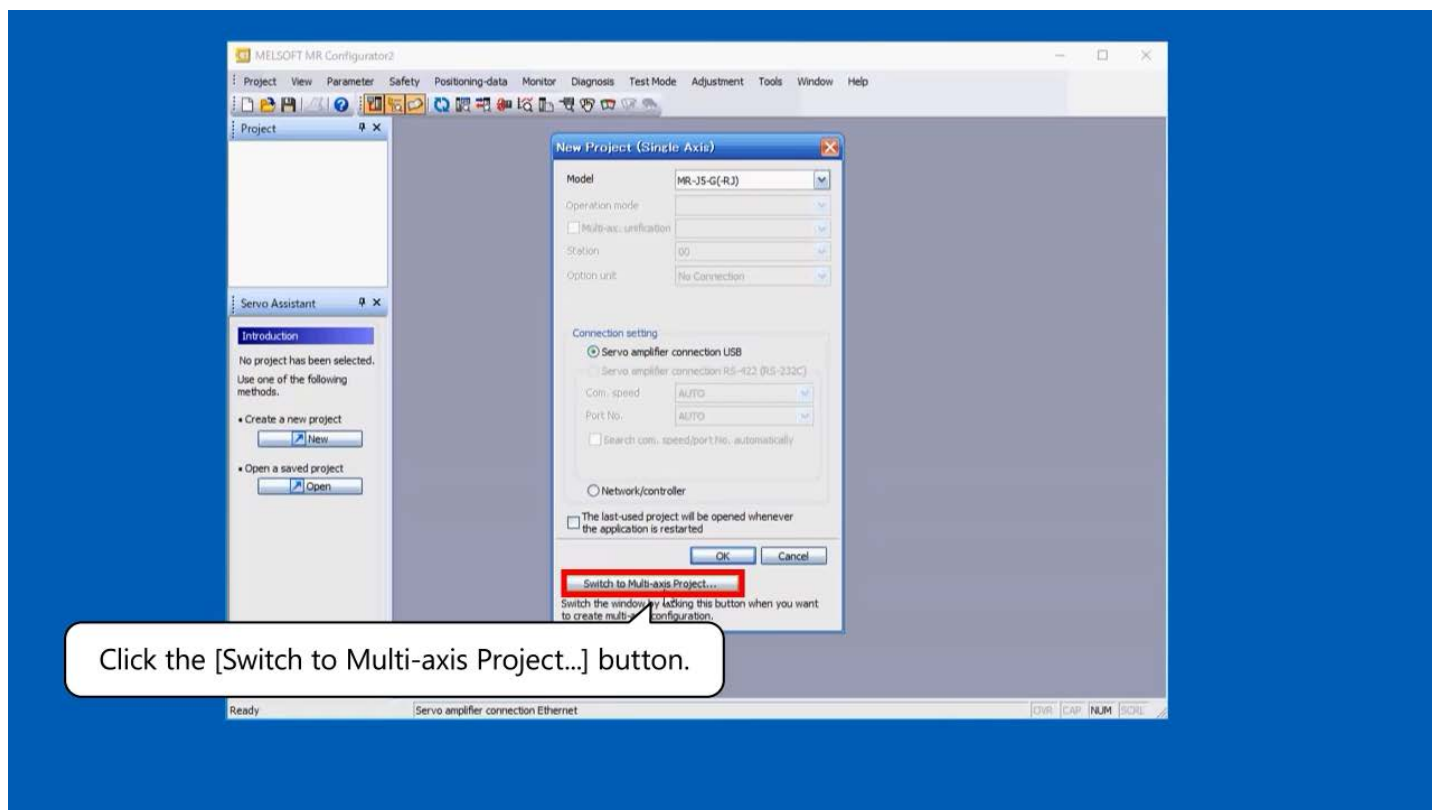


The [New Project] window appears.

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

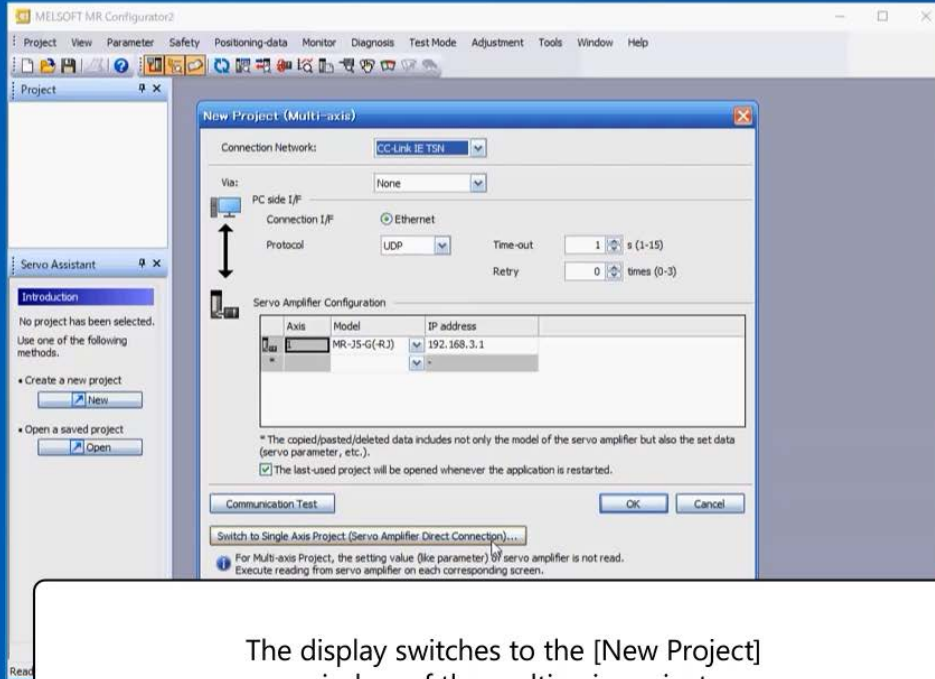
For the procedure, see the video below.



This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.



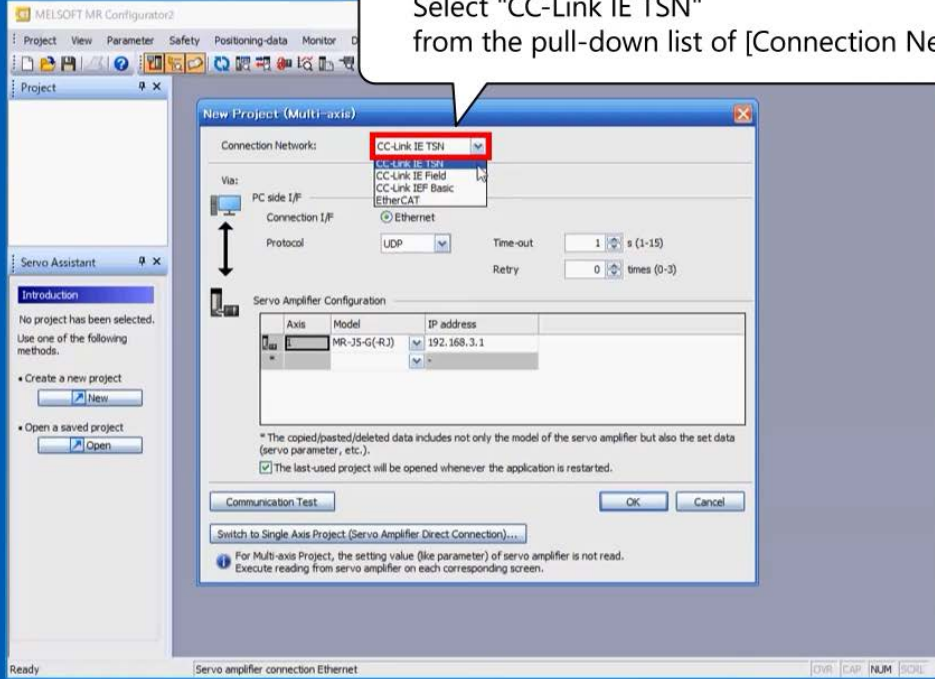
The display switches to the [New Project] window of the multi-axis project.

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.

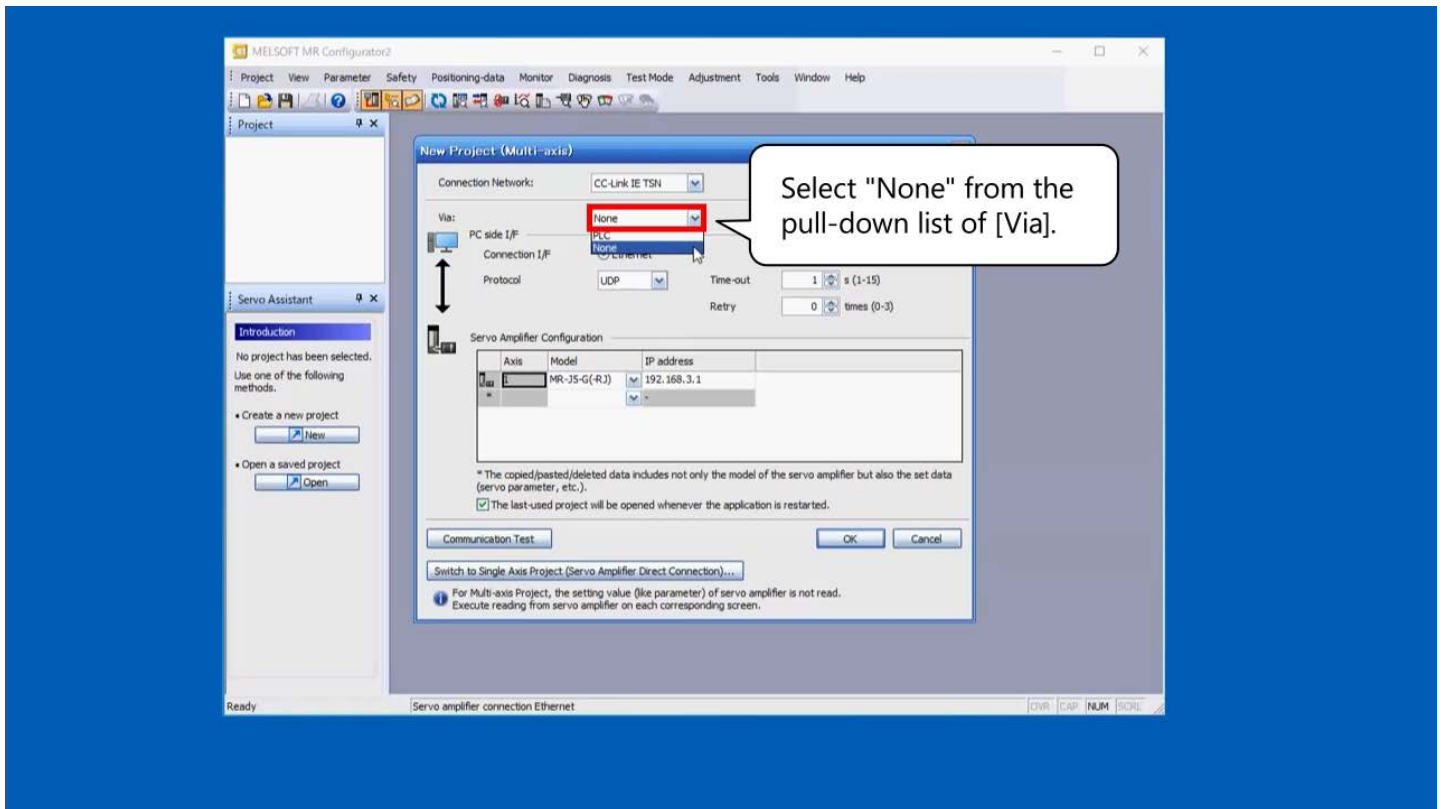
Select "CC-Link IE TSN"
from the pull-down list of [Connection Network].



This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.



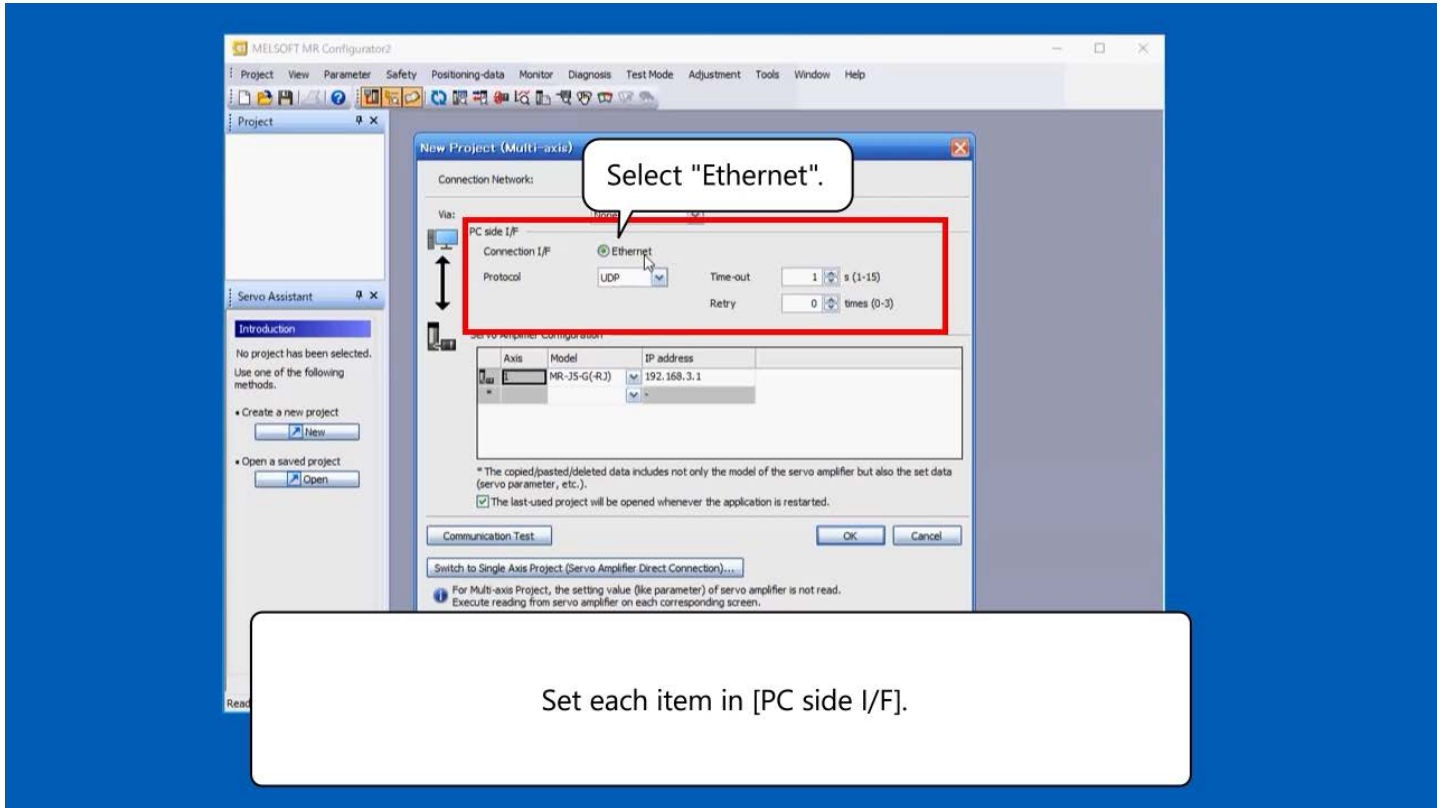
3.2.2

Connection between MR Configurator2 and the servo amplifier

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

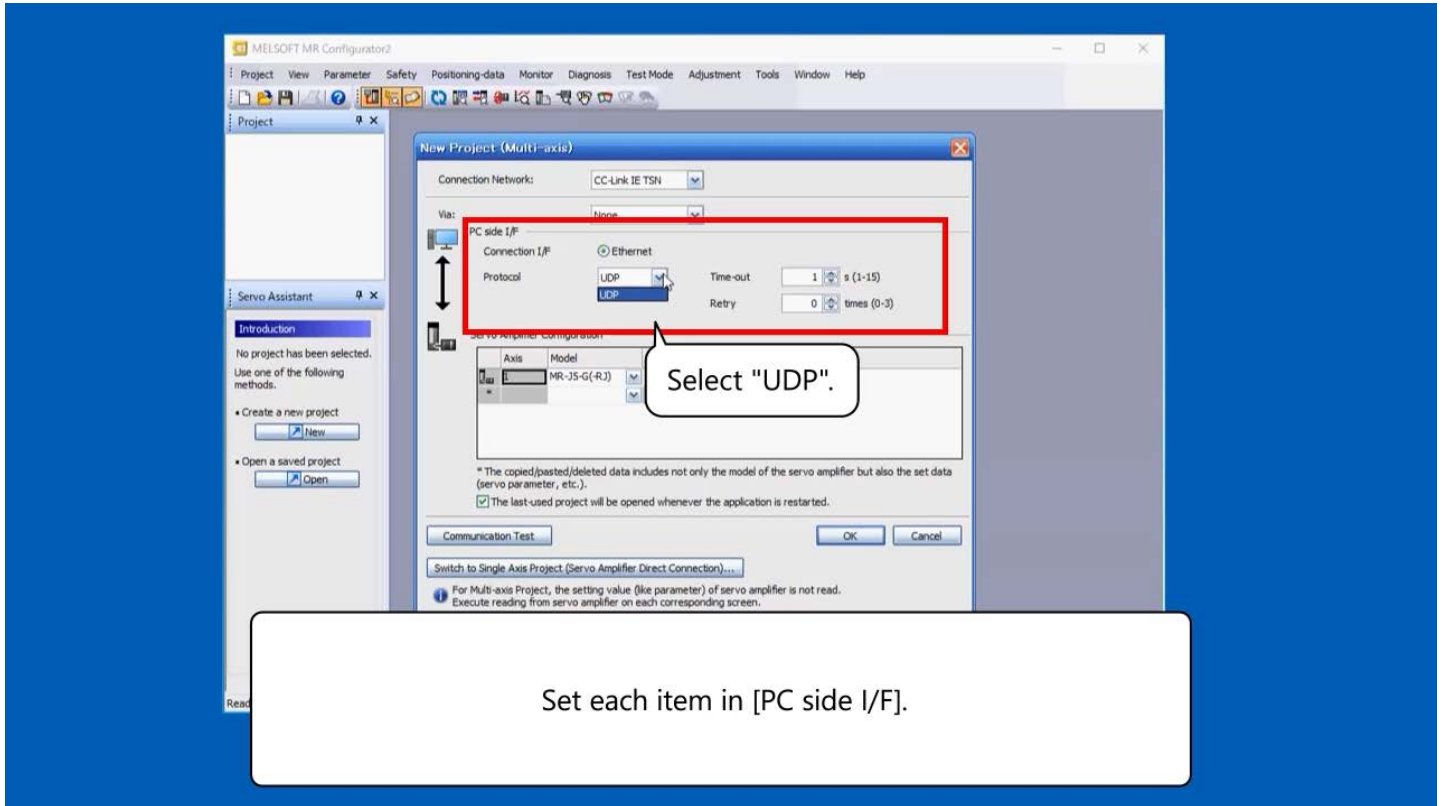
For the procedure, see the video below.



This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.



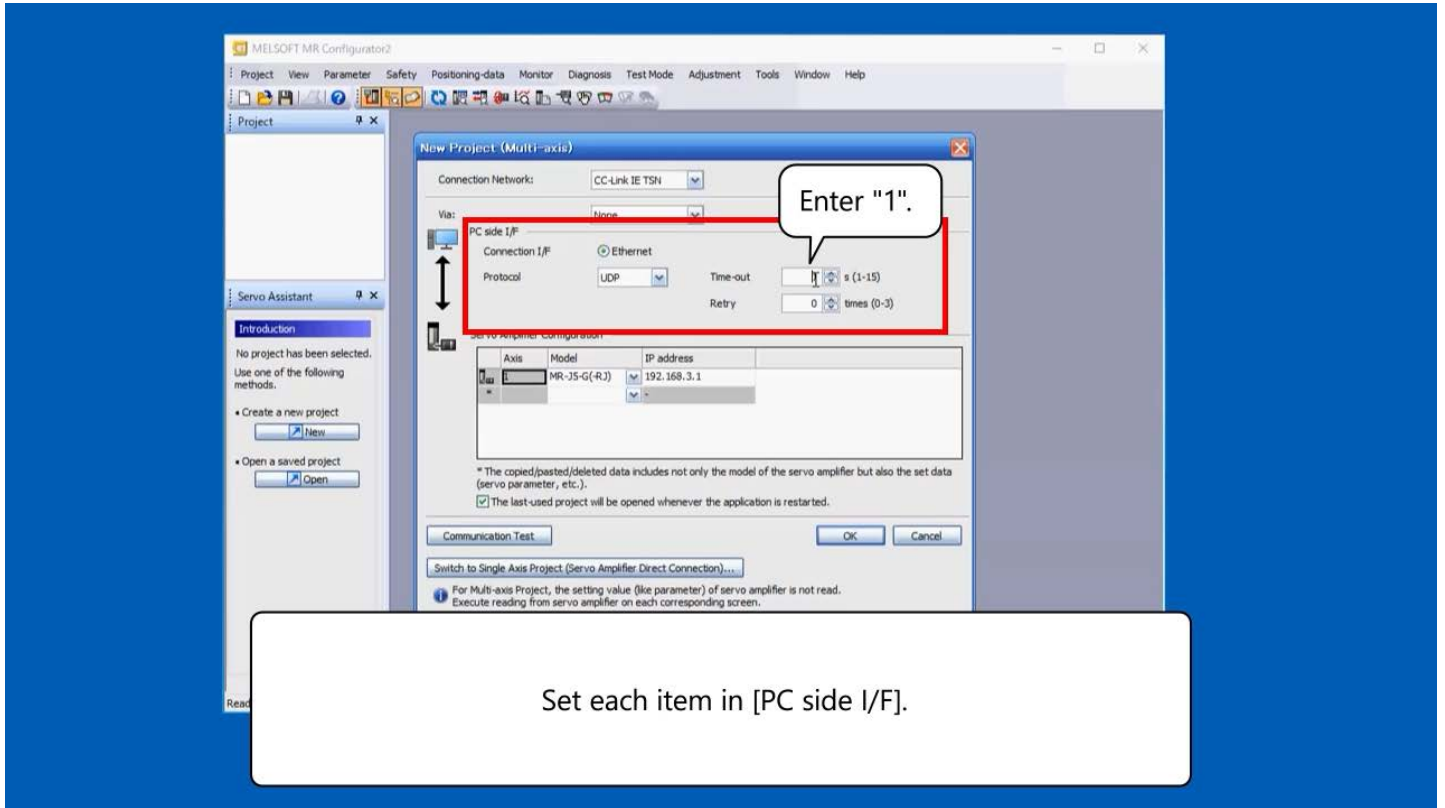
3.2.2

Connection between MR Configurator2 and the servo amplifier

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

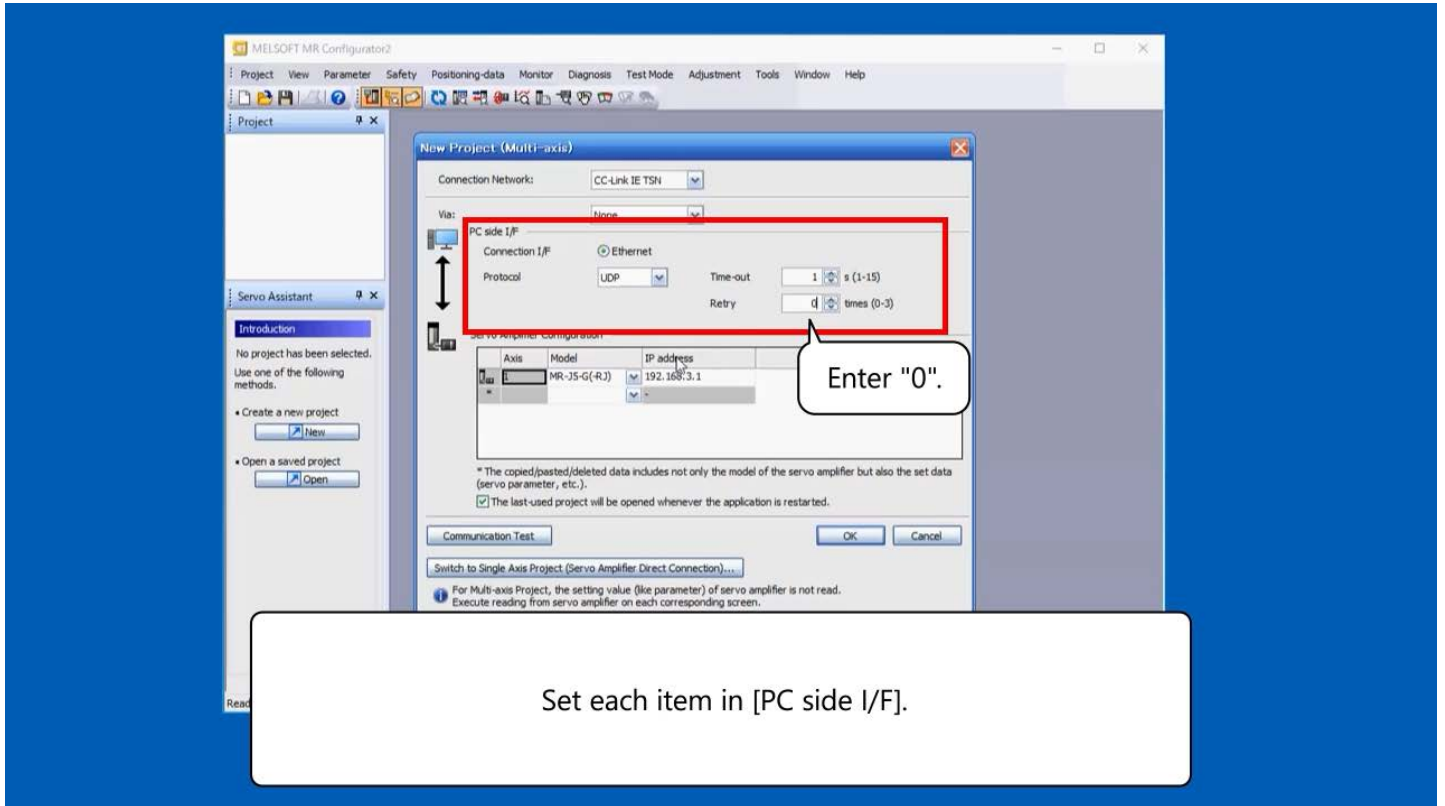
For the procedure, see the video below.



This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

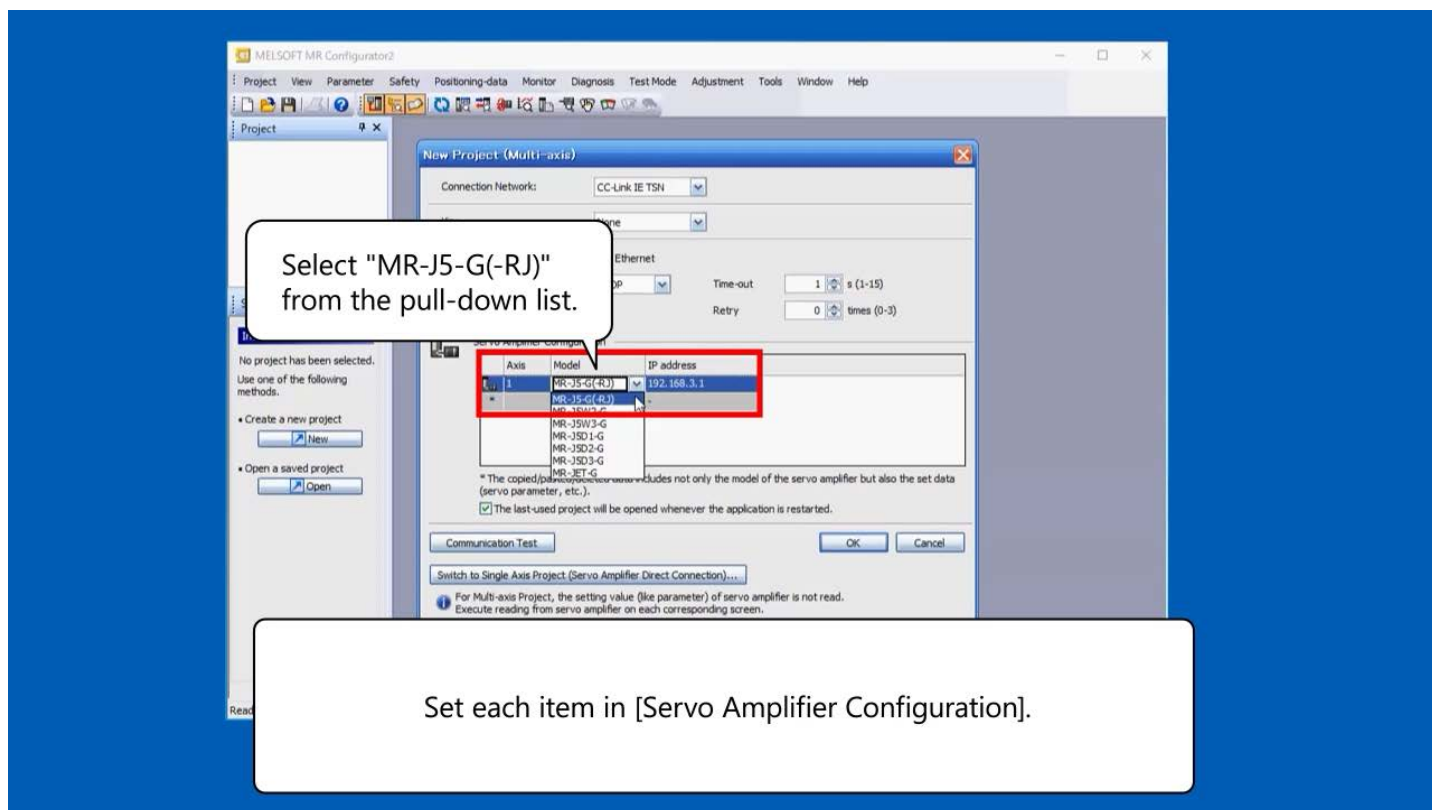
For the procedure, see the video below.



This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.



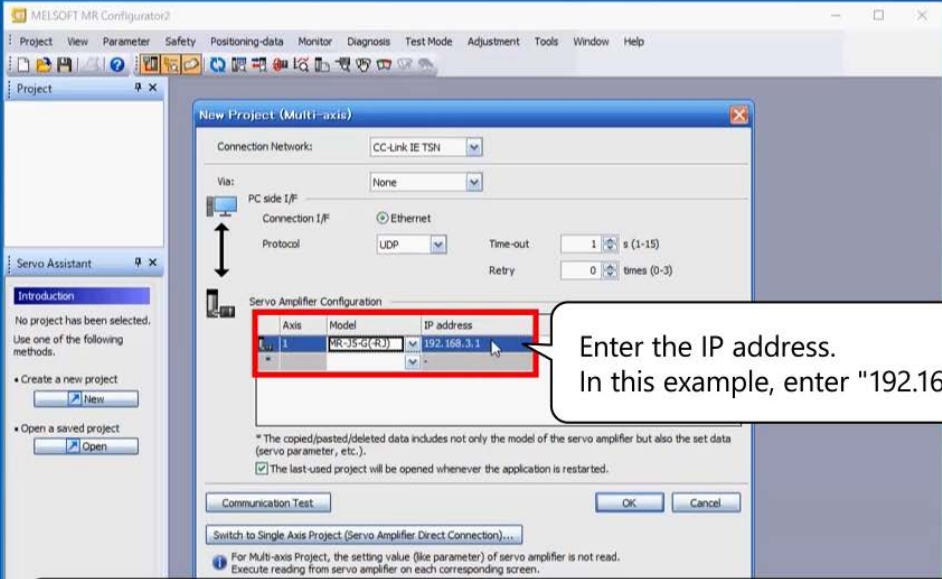
3.2.2

Connection between MR Configurator2 and the servo amplifier

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.



Enter the IP address.
In this example, enter "192.168.3.1".

Axis	Model	IP address
1	MR-J5-G(RJ)	192.168.3.1

Set each item in [Servo Amplifier Configuration].

3.2.2

Connection between MR Configurator2 and the servo amplifier

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.

Turn on the control circuit power supply of the servo amplifier.

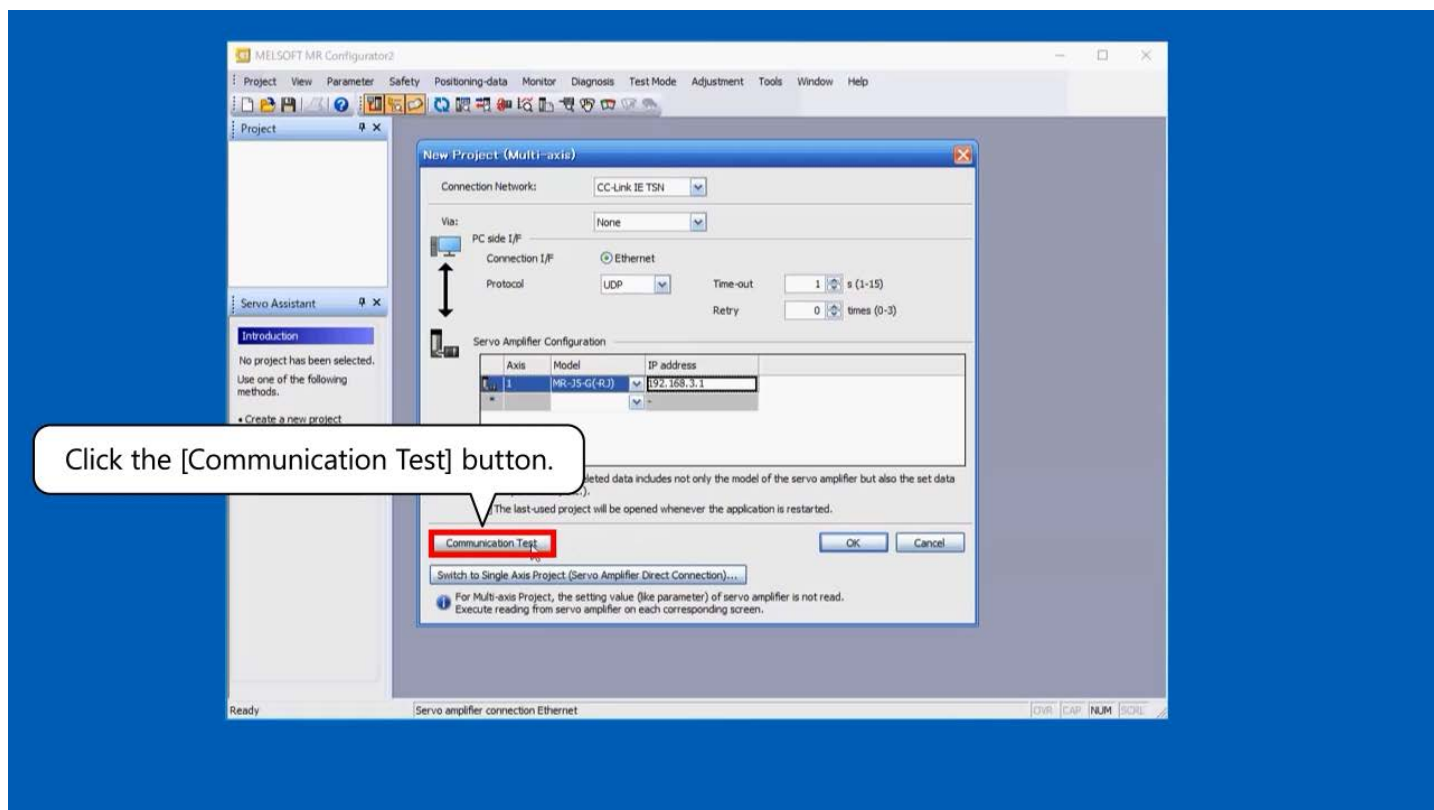
3.2.2

Connection between MR Configurator2 and the servo amplifier

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.



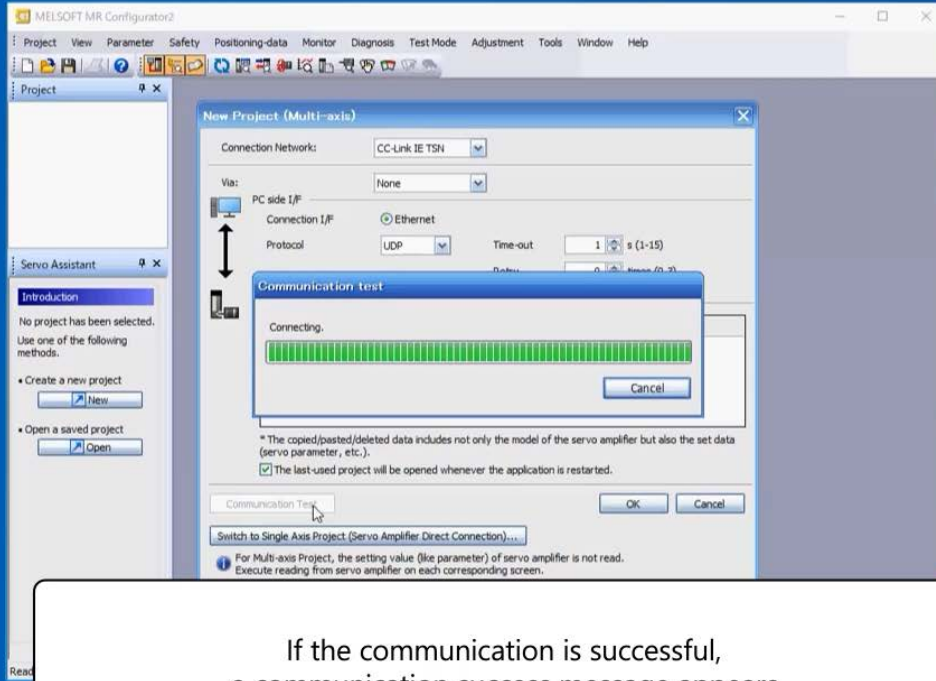
3.2.2

Connection between MR Configurator2 and the servo amplifier

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.



If the communication is successful,
a communication success message appears.

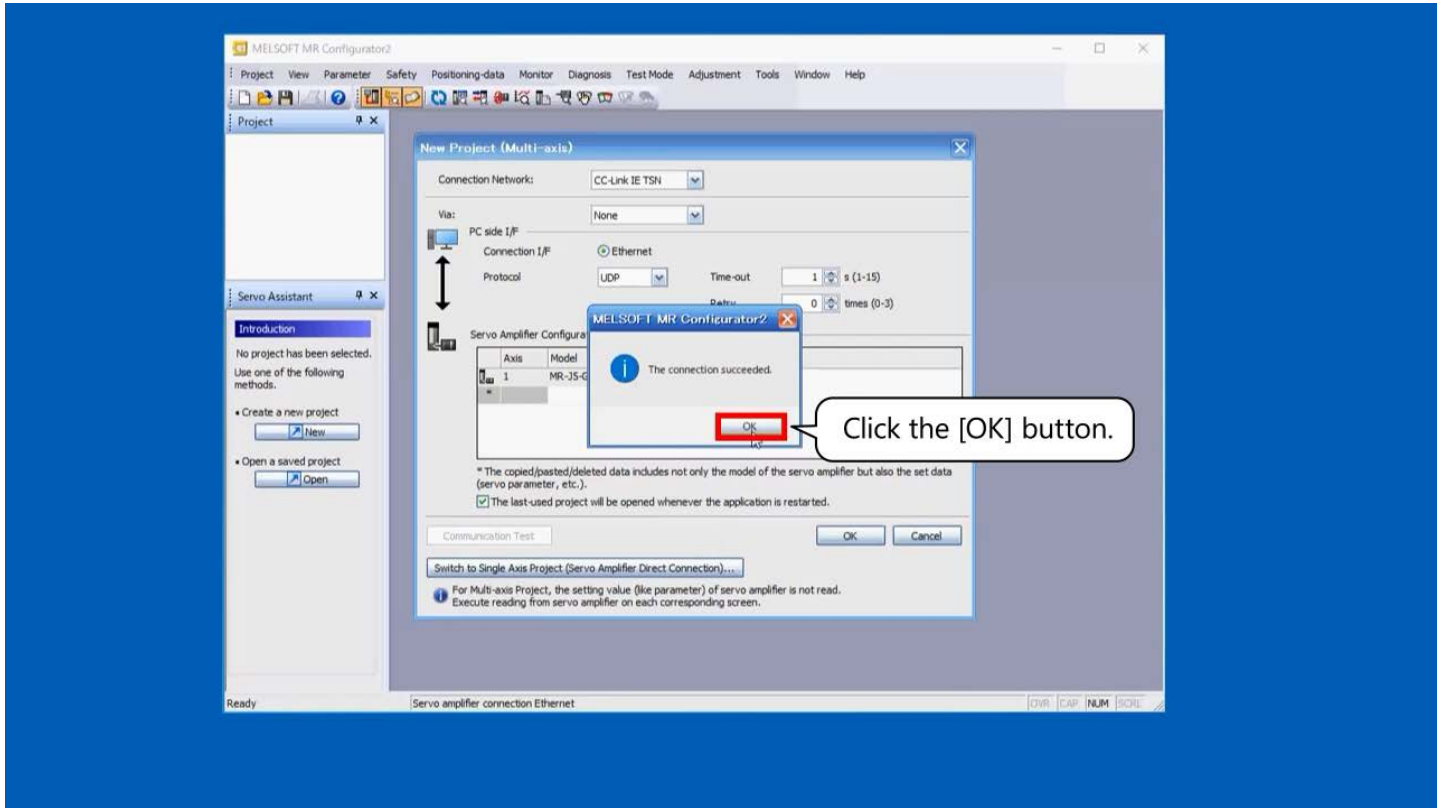
3.2.2

Connection between MR Configurator2 and the servo amplifier

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.



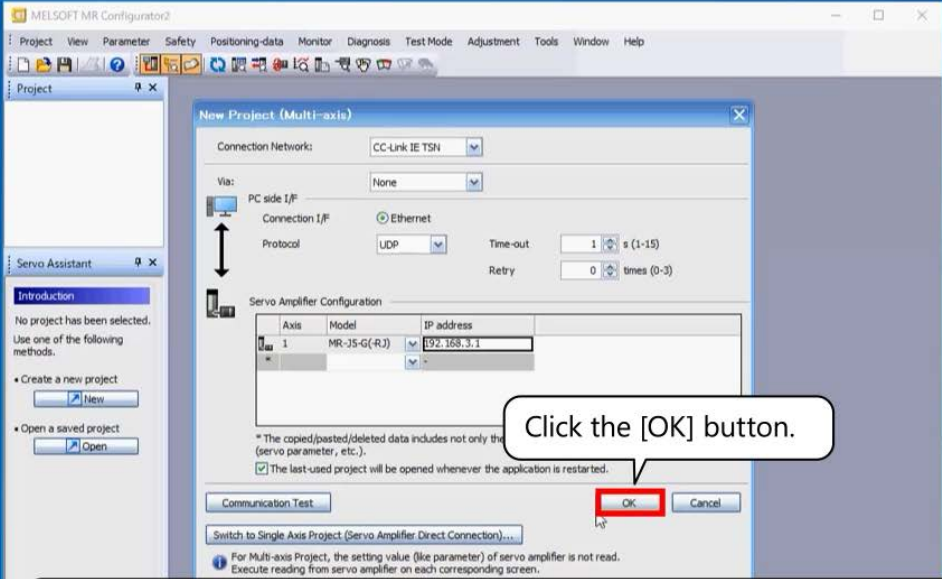
3.2.2

Connection between MR Configurator2 and the servo amplifier

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.



Click the [OK] button.

Now you can connect MR Configurator2 to the servo amplifier using the IP communication function.

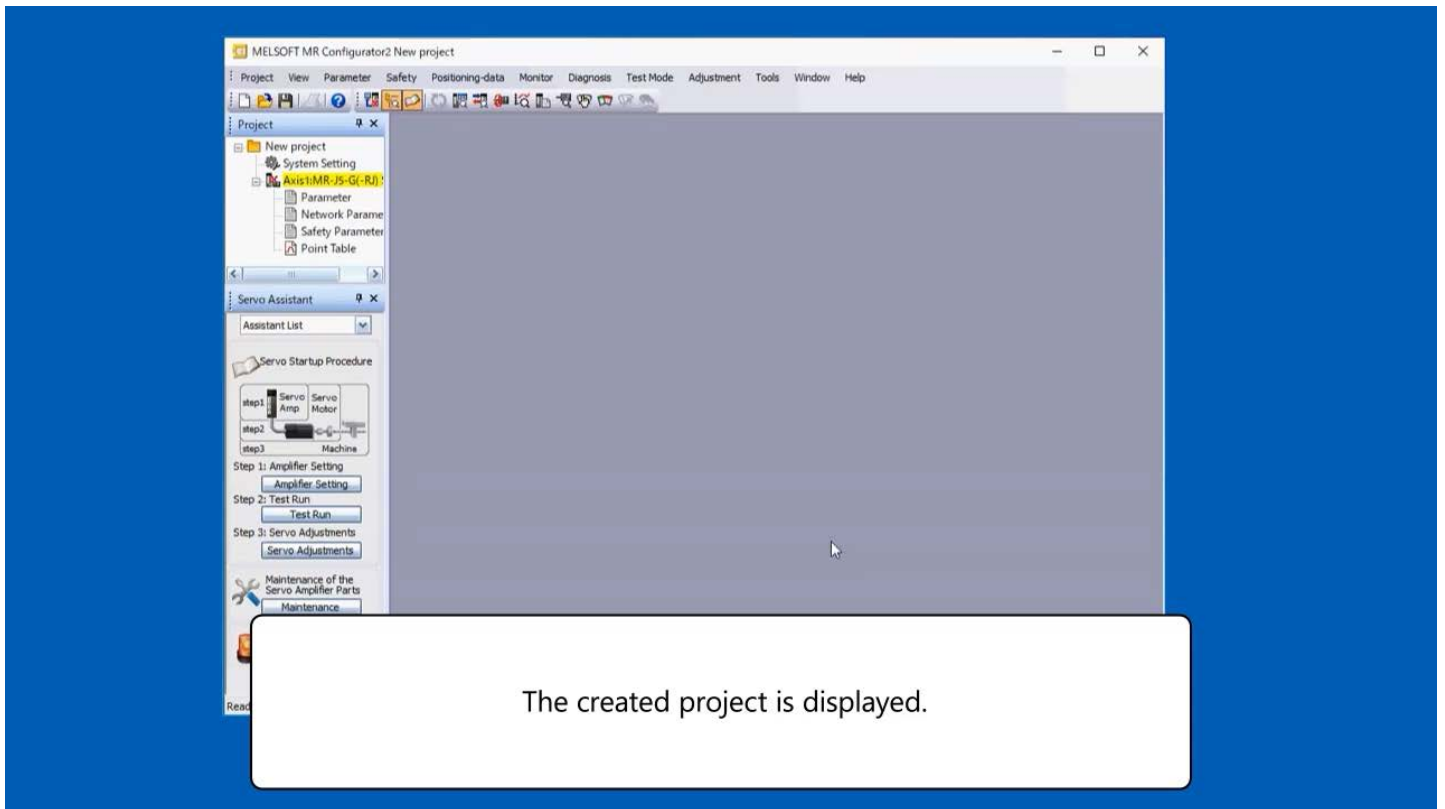
3.2.2

Connection between MR Configurator2 and the servo amplifier

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.



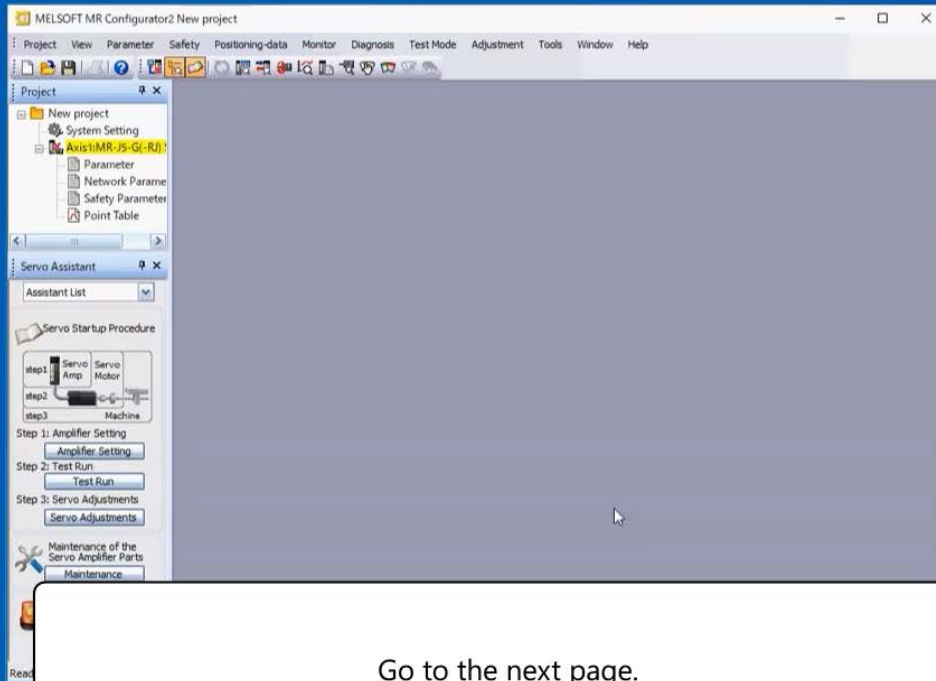
3.2.2

Connection between MR Configurator2 and the servo amplifier

This section describes the procedure for connecting MR Configurator2 to the servo amplifier using the IP communication function.

Start MR Configurator2 by clicking the "MR Configurator2" icon on the Windows desktop.

For the procedure, see the video below.



Go to the next page.

Next, set the following parameters of the servo amplifier using MR Configurator2. The setting procedures are described in the following section.

■ Parameter

No.	Name	Setting value
PA04.2	Servo forced stop selection	1: Disabled (The forced stop input EM1 and EM2 are not used)
PD01.2	Input signal automatic ON selection	■ Forward rotation stroke end (LSP) 1: Automatic on ■ Reverse rotation stroke end (LSN) 1: Automatic on
PT01.1	Speed/acceleration/deceleration unit selection	1 (Speed: Command unit/s, Acceleration/deceleration: Command unit/s ²)*

* The command unit is fixed to pulse. Therefore, the speed unit is not "r/min" but "pulse/s".

<Precautions>

- In the parameter change example, the input signal of the servo amplifier is not used. Configure the settings according to the safety measures required for the customer's intended use.
- The parameters of the servo amplifier are not managed in SWM-G.
- When the servo parameter [PT01.1 (Speed/acceleration/deceleration unit selection)] is set to "1: (Speed: Command unit/s, acceleration/deceleration: command unit/s²)", the digits may overflow since the command unit is 32-bit. In that case, adjust it using the gear on the servo amplifier side.

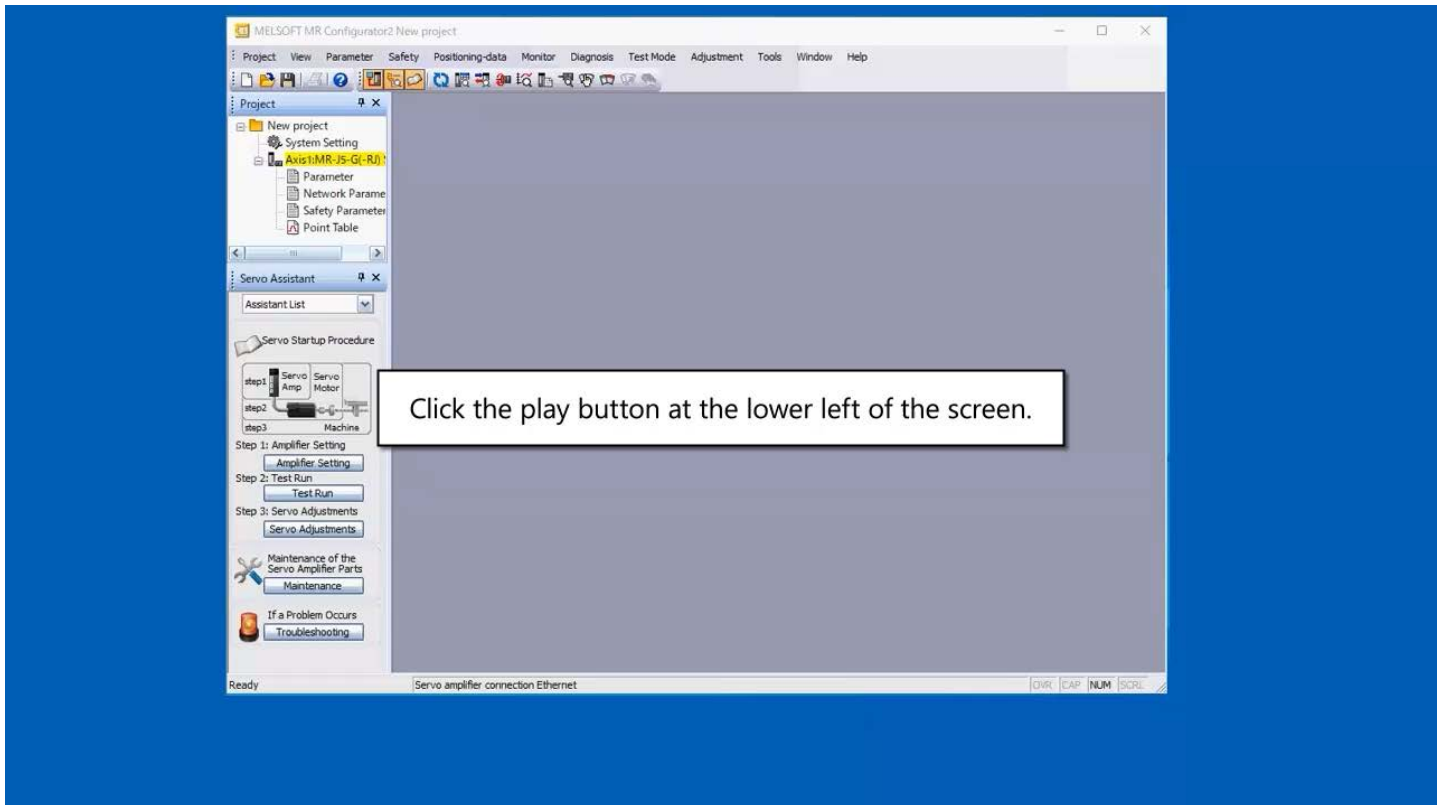
[Point]

- MR Configurator2 is software for servo parameter setting, graph measurement/display, test operation, and others.
- Configure the parameter setting for all the connected axes.

3.2.4

Parameter setting procedure 2

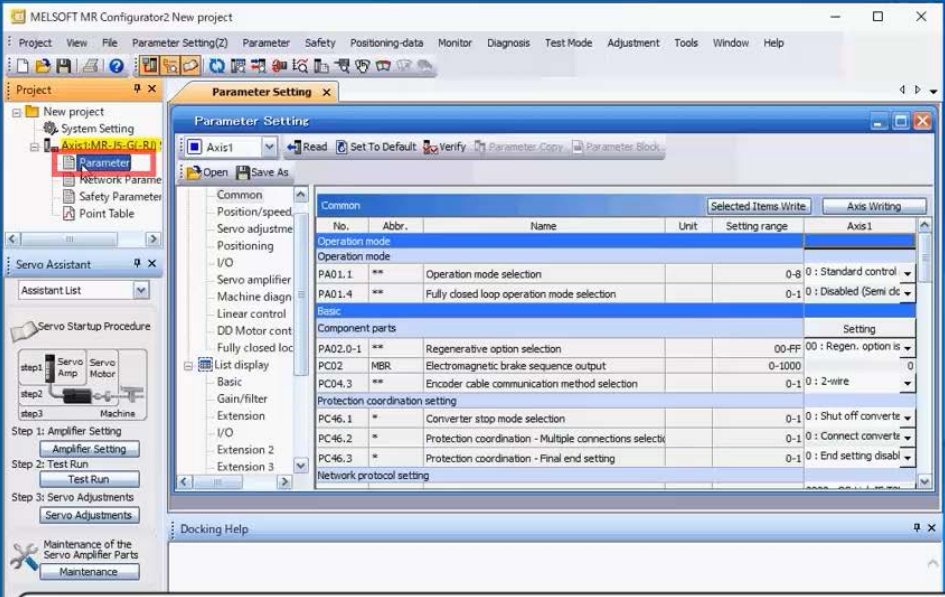
For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



3.2.4

Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



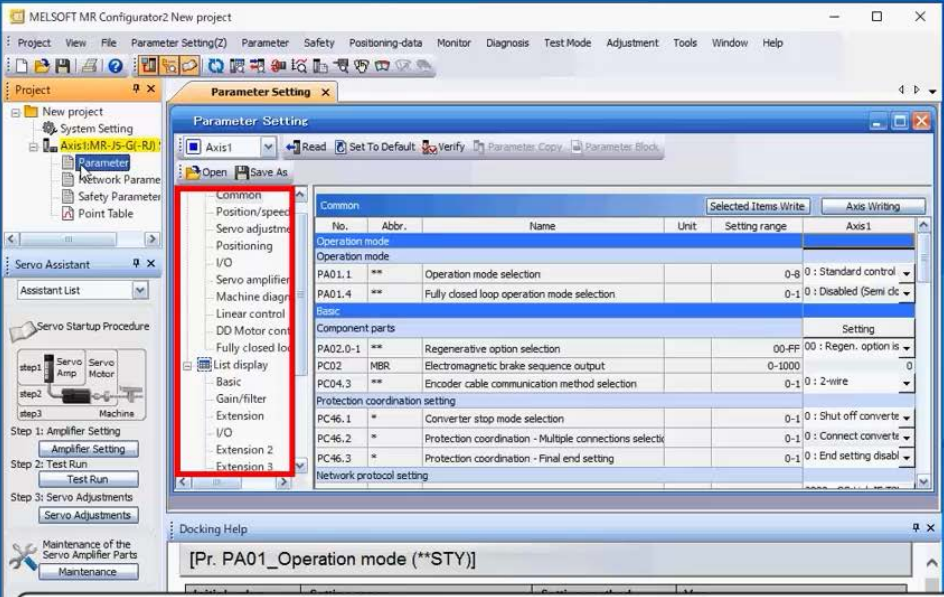
The screenshot shows the MELSOFT MR Configurator2 interface. The 'Project' window on the left displays a tree view with 'Axis1:MR-J5-G(-RJ)Standard' selected. The 'Parameter Setting' window is open, showing a table of parameters for Axis1. The table has columns for 'No.', 'Abbr.', 'Name', 'Unit', 'Setting range', and 'Axis Writing'. The parameters are grouped into sections: Operation mode, Component parts, and Protection coordination setting.

No.	Abbr.	Name	Unit	Setting range	Axis Writing
Operation mode					
PA01.1	**	Operation mode selection		0-8	0: Standard control
PA01.4	**	Fully closed loop operation mode selection		0-1	0: Disabled (Semi clc
Basic					
Component parts					
PA02.0-1	**	Regenerative option selection		00-FF	00: Regen. option is
PC02	MBR	Electromagnetic brake sequence output		0-1000	0
PC04.3	**	Encoder cable communication method selection		0-1	0: 2-wire
Protection coordination setting					
PC46.1	*	Converter stop mode selection		0-1	0: Shut off converte
PC46.2	*	Protection coordination - Multiple connections select		0-1	0: Connect converte
PC46.3	*	Protection coordination - Final end setting		0-1	0: End setting disabl
Network protocol setting					

On the project window, select [Axis1:MR-J5-G(-RJ)Standard] and double-click [Parameter].

3.2.4 Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



The screenshot shows the MELSOFT MR Configurator2 software interface. The main window is titled "Parameter Setting" and displays a tree view on the left and a parameter table on the right. The tree view shows a hierarchy of parameter groups, with "Operation mode" selected. The parameter table lists parameters such as PA01.1 and PA01.4, along with their names, units, and settings. A red box highlights the "Operation mode" group in the tree view.

No.	Abbr.	Name	Unit	Setting range	Axis Writing
Operation mode					
Operation mode					
PA01.1	**	Operation mode selection		0-8	0: Standard control
PA01.4	**	Fully closed loop operation mode selection		0-1	0: Disabled (Semi clc
Basic					
Component parts					
Setting					
PA02.0-1	**	Regenerative option selection		00-FF	00: Regen. option is
PC02	MBR	Electromagnetic brake sequence output		0-1000	0
PC04.3	**	Encoder cable communication method selection		0-1	0: 2-wire
Protection coordination setting					
PC46.1	*	Converter stop mode selection		0-1	0: Shut off converte
PC46.2	*	Protection coordination - Multiple connections select		0-1	0: Connect converte
PC46.3	*	Protection coordination - Final end setting		0-1	0: End setting disabl
Network protocol setting					

The parameter setting window appears. Select the group of the parameter to be set from the display selection tree and set the parameter.

3.2.4 Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.

The screenshot shows the MELSOFT MR Configurator2 interface. The 'Parameter Setting' window is open for 'Axis 1'. The 'Function display' tree on the left is expanded to 'List display' > 'Common'. The parameter table is as follows:

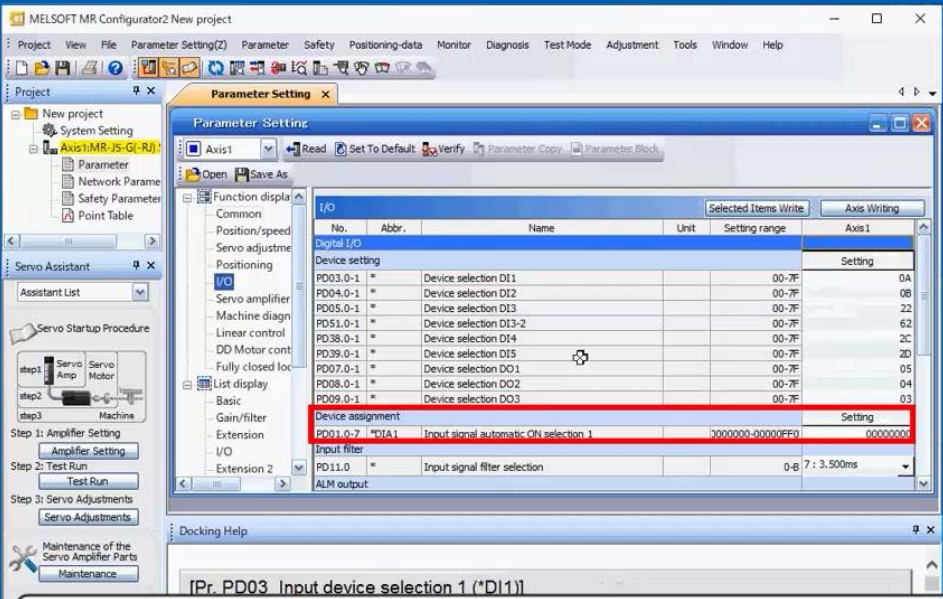
No.	Abbr.	Name	Unit	Setting range	Axis Writing
PA01.0	**	Control mode selection		0-6	0: Network standarc
PA14	*POL	Travel direction selection		0-1	0: CCW or positive c
PC29.3	*	Torque PDL reflection selection		0-1	1: Disabled
PC07	ZSP	Zero speed		0-10000	50
PA04.2	*	Servo forced stop selection		0-1	1: Disabled (Use for
PA04.3	*	Forced stop deceleration function selection		0-1	1: Disabled (The forced stop input EM1 and EM2 are not used)
PC24	RSBR	Deceleration time constant at forced stop		0-20000	100
PC02	MBR	Electromagnetic brake sequence output		0-1000	0
PC31	RSUP1	Vertical axis freefall prevention compensation amount		-25000-25000	0

A callout box at the bottom of the screenshot contains the following text:

Select [Function display(List)] → [Common] in the display selection tree, and then set [Pr. PA04.2, Servo forced stop selection] to [1: Disabled(The forced stop input EM1 and EM2 are not used)] in [Forced stop].

3.2.4 Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



The screenshot shows the MELSOFT MR Configurator2 software interface. The main window is titled 'Parameter Setting' and displays a table of parameters for Digital I/O. The 'Device assignment' section is highlighted in red, and the 'Setting' button for the 'Input signal automatic ON selection 1' parameter is also highlighted. A callout box at the bottom of the screenshot provides instructions on how to select the 'Setting' button for the 'Input signal automatic ON selection 1' parameter.

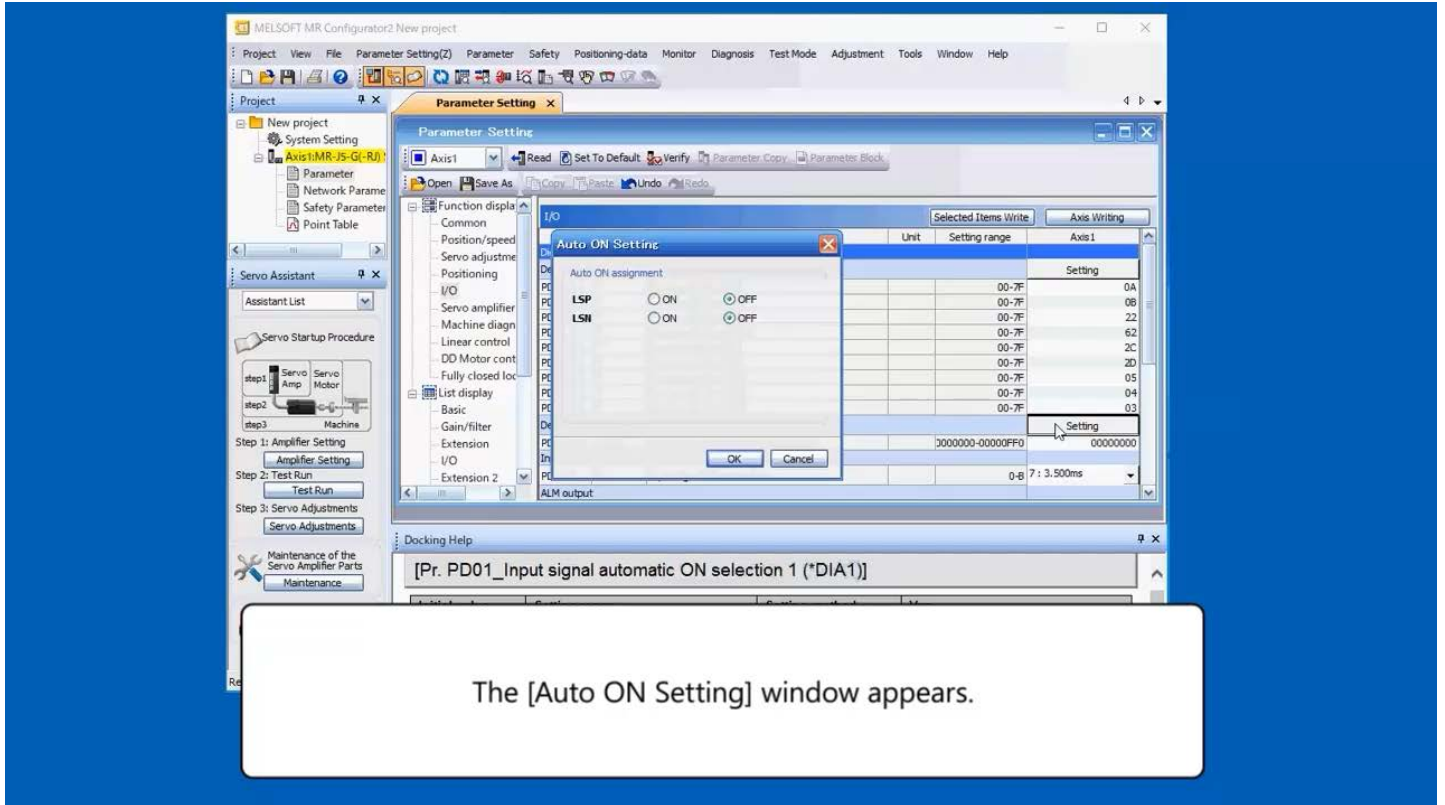
No.	Abbr.	Name	Unit	Setting range	Axis Writing
Digital I/O					
Device setting					
PD03.0-1	*	Device selection DI1		00-7F	0A
PD04.0-1	*	Device selection DI2		00-7F	0B
PD05.0-1	*	Device selection DI3		00-7F	22
PD51.0-1	*	Device selection DI3-2		00-7F	62
PD38.0-1	*	Device selection DI4		00-7F	2C
PD39.0-1	*	Device selection DI5		00-7F	2D
PD07.0-1	*	Device selection DO1		00-7F	05
PD08.0-1	*	Device selection DO2		00-7F	04
PD09.0-1	*	Device selection DO3		00-7F	03
Device assignment					
PD01.0-7	*DIA1	Input signal automatic ON selection 1		00000000-000000FF	Setting
Input filter					
PD11.0	*	Input signal filter selection		0-6	7 : 3.500ms
ALM output					

Select [Function display(List)] → [I/O] in the display selection tree, and then click the [Setting] button for [PD01.0-7, Input signal automatic ON selection 1] in [Device assignment] under [Digital I/O].

3.2.4

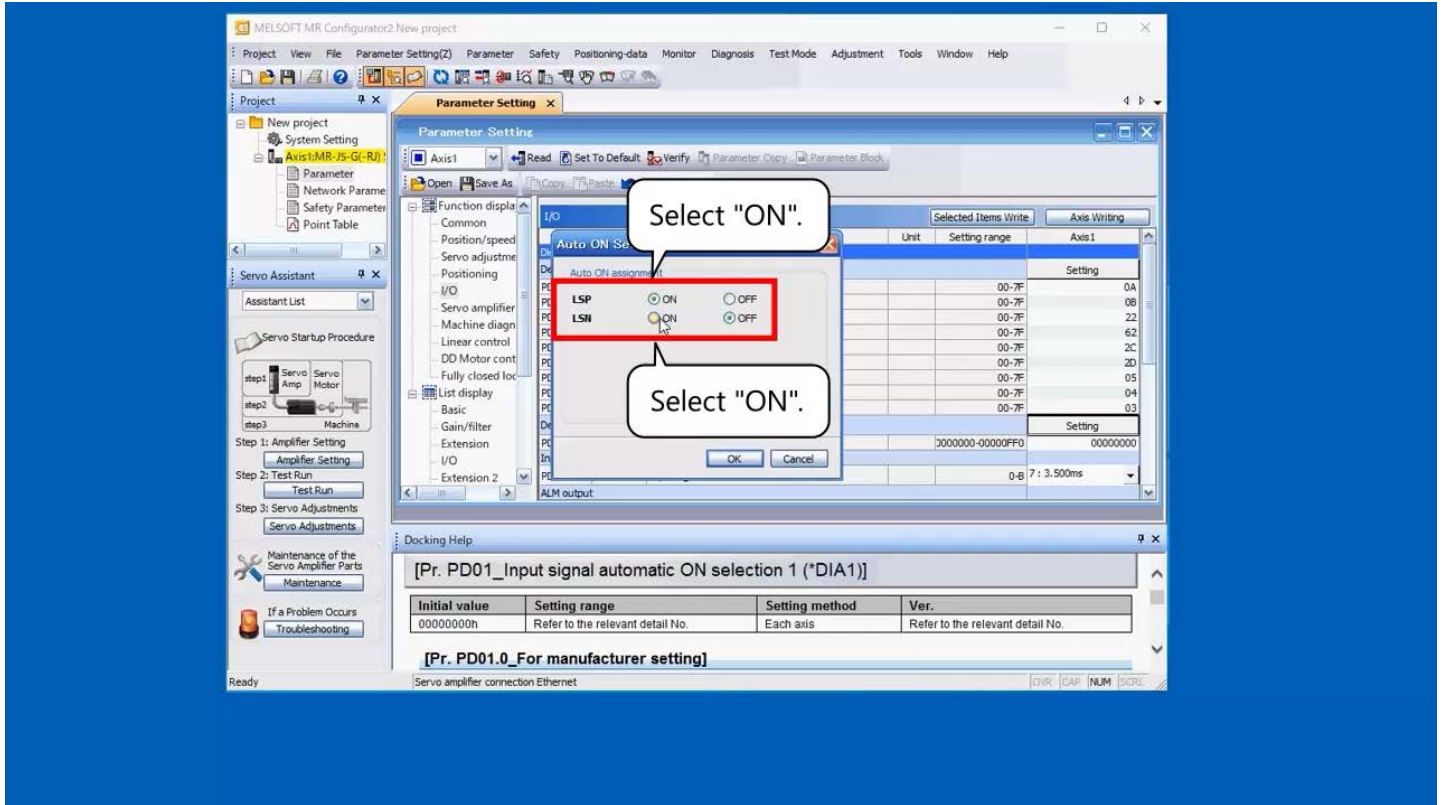
Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



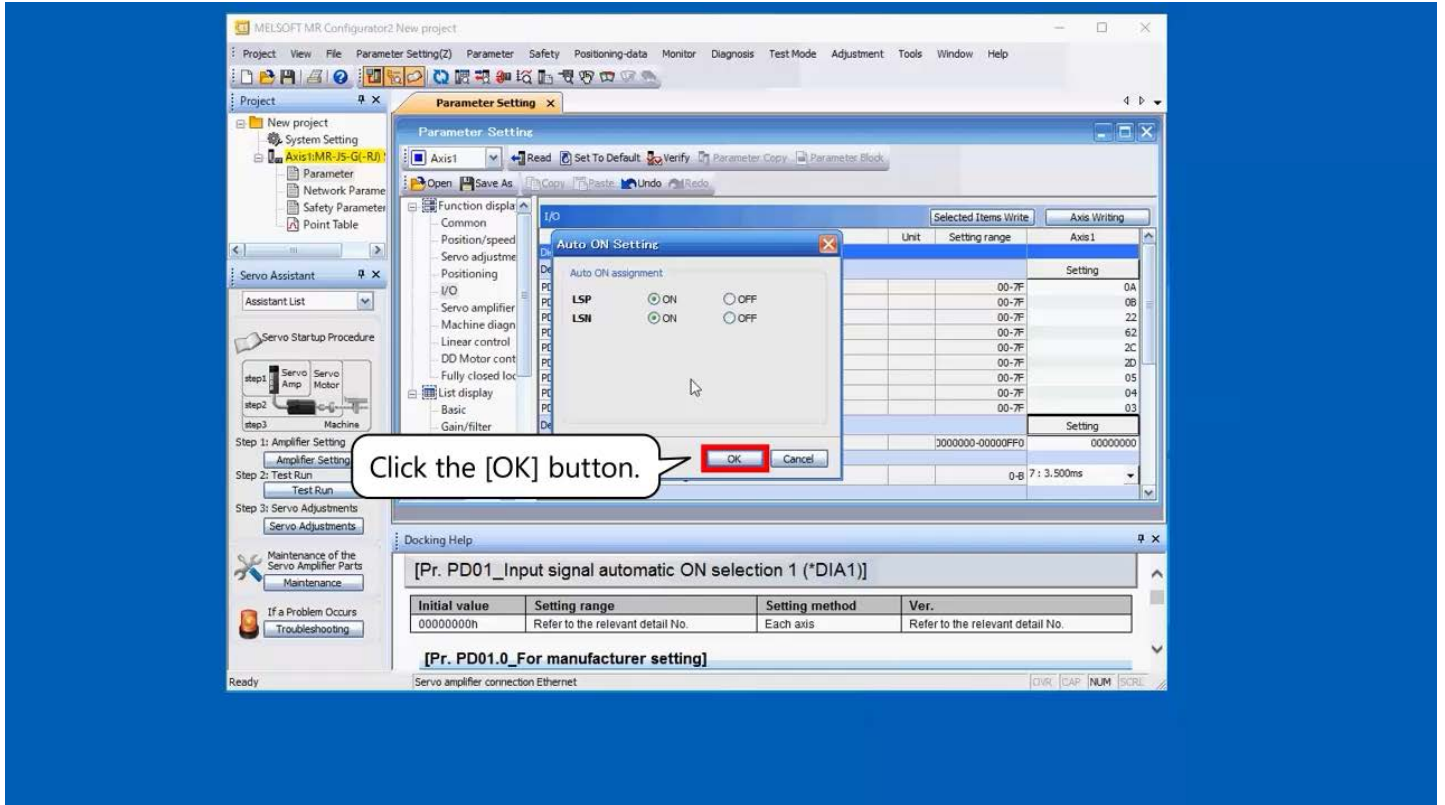
3.2.4 Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



3.2.4 Parameter setting procedure 2

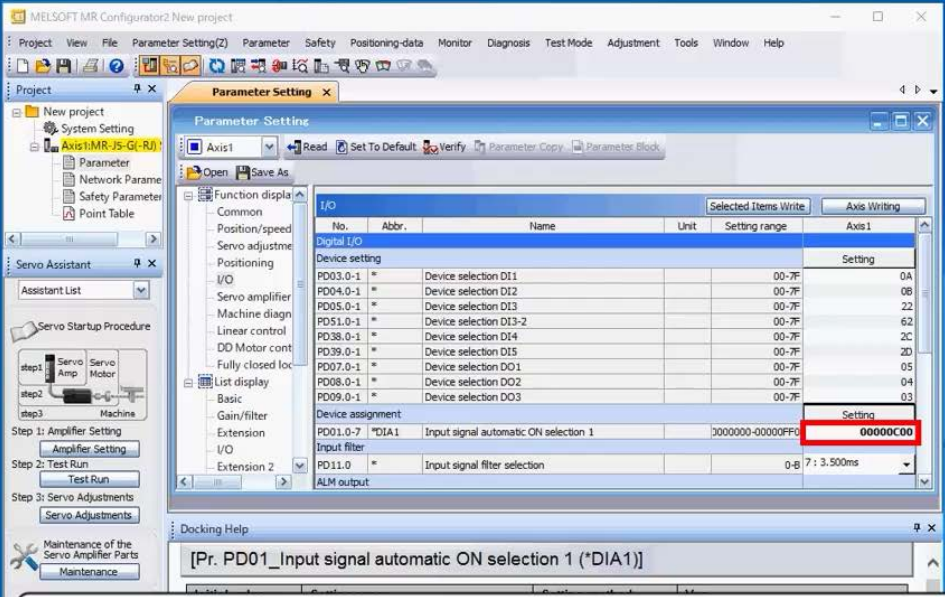
For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



3.2.4

Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



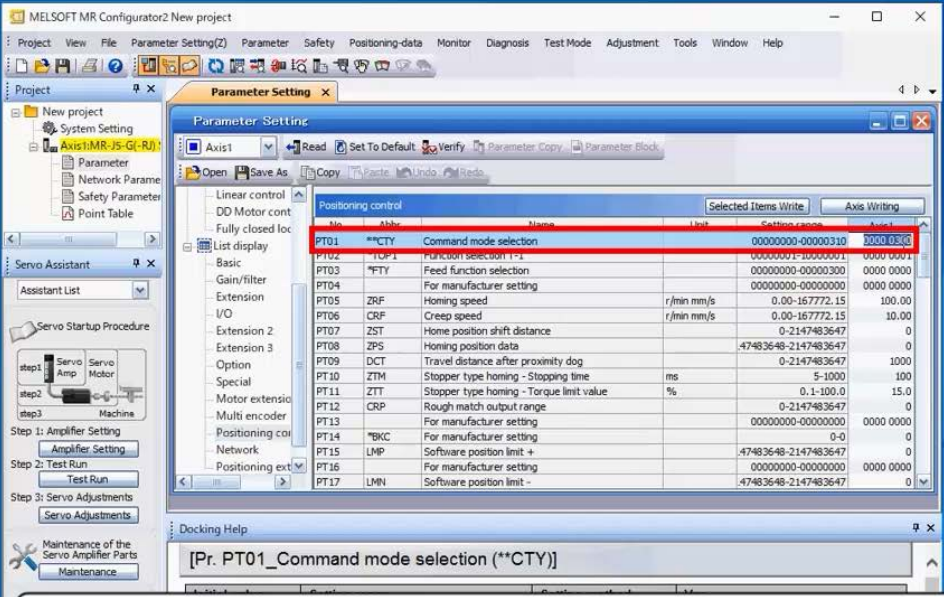
The screenshot shows the MELSOFT MR Configurator2 software interface. The 'Parameter Setting' window is active, displaying a table of parameters. The parameter 'PD01.2 *DIA1 Input signal automatic ON selection 1' is selected, and its value is set to '0000C00'. A red box highlights the value '0000C00' in the 'Setting' column. A white callout box at the bottom of the screenshot contains the text: '0xC is set in [PD01.2 Input signal automatic ON selection].'

No.	Abbr.	Name	Unit	Setting range	Axis Writing
Digital I/O					
Device setting					
PD03.0-1	*	Device selection DI1		00-7F	0A
PD04.0-1	*	Device selection DI2		00-7F	0B
PD05.0-1	*	Device selection DI3		00-7F	22
PD51.0-1	*	Device selection DI3-2		00-7F	62
PD38.0-1	*	Device selection DI4		00-7F	2C
PD39.0-1	*	Device selection DI5		00-7F	2D
PD07.0-1	*	Device selection DO1		00-7F	05
PD08.0-1	*	Device selection DO2		00-7F	04
PD09.0-1	*	Device selection DO3		00-7F	03
Device assignment					
PD01.0-7	*DIA1	Input signal automatic ON selection 1		00000000-00000FFF	Setting
Input filter					
PD11.0	*	Input signal filter selection		0-8	7 : 3.500ms
ALM output					

3.2.4

Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



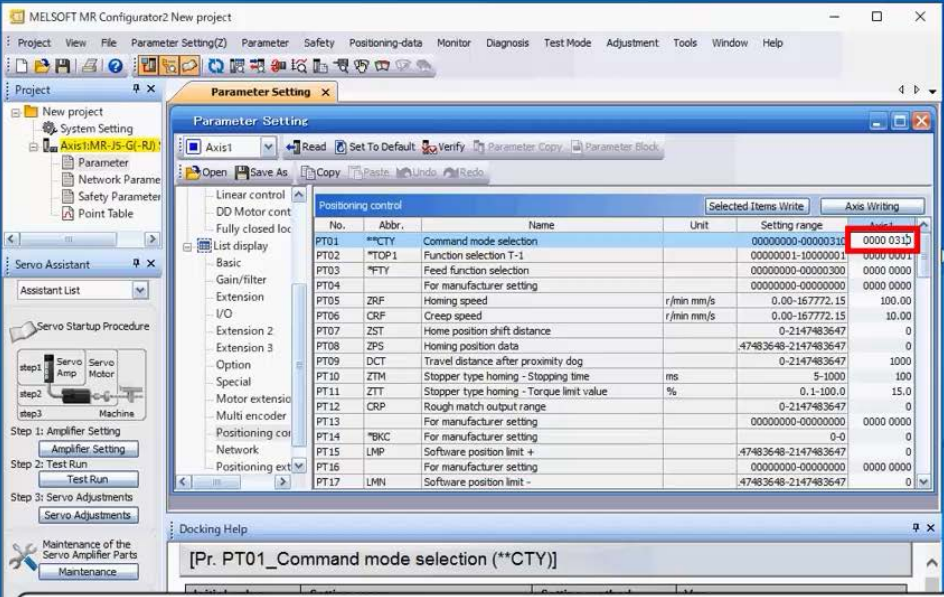
The screenshot shows the MELSOFT MR Configurator2 software interface. The main window is titled "Parameter Setting" and displays a list of parameters under the "Positioning control" section. The parameter "PT01 Command mode selection" is highlighted in red. The software interface includes a menu bar, a toolbar, and a sidebar with various settings categories. A callout box at the bottom of the screenshot provides instructions: "Select [List display] → [Positioning control] in the display selection tree, and select [PT01, Command mode selection]."

No.	Abbr.	Name	Selected	Items Write	Axis Writing
PT01	**CTY	Command mode selection	00000000-00000310	0000 0000	0000 0000
PT02	*TCP1	Function selection 1(+)	00000000-10000001	0000 0000	0000 0000
PT03	*FTY	Feed function selection	00000000-00000300	0000 0000	0000 0000
PT04		For manufacturer setting	00000000-00000000	0000 0000	0000 0000
PT05	ZRF	Homing speed	0.00-167772.15	100.00	100.00
PT06	CRF	Creep speed	0.00-167772.15	100.00	100.00
PT07	ZST	Home position shift distance	0-2147483647	0	0
PT08	ZPS	Homing position data	-47483648-2147483647	0	0
PT09	DCT	Travel distance after proximity dog	0-2147483647	1000	1000
PT10	ZTM	Stopper type homing - Stopping time	ms	5-1000	100
PT11	ZTT	Stopper type homing - Torque limit value	%	0.1-100.0	15.0
PT12	CRP	Rough match output range	0-2147483647	0	0
PT13		For manufacturer setting	00000000-00000000	0000 0000	0000 0000
PT14	*BNC	For manufacturer setting	0-0	0	0
PT15	LMP	Software position limit +	-47483648-2147483647	0	0
PT16		For manufacturer setting	00000000-00000000	0000 0000	0000 0000
PT17	LMN	Software position limit -	-47483648-2147483647	0	0

3.2.4

Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



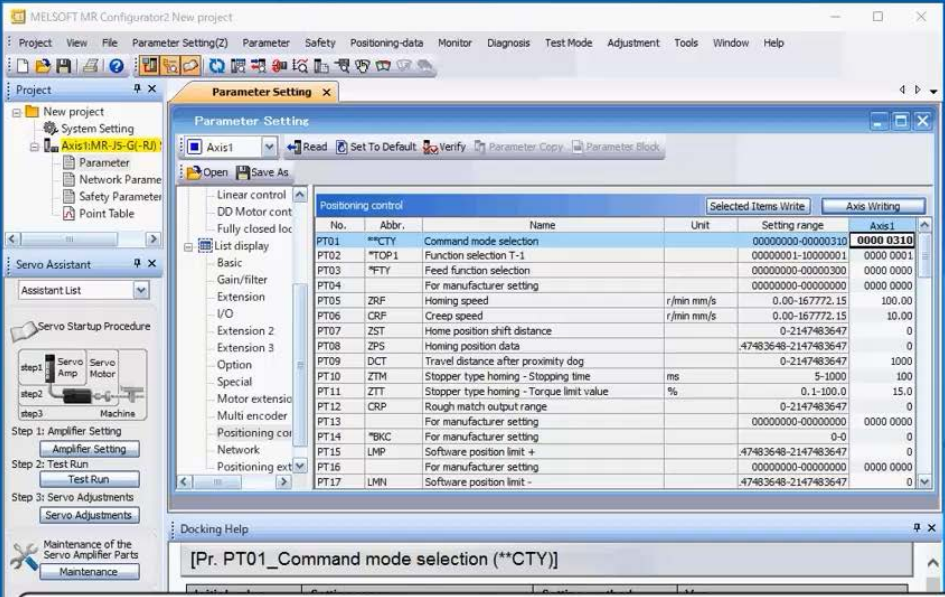
The screenshot shows the MELSOFT MR Configurator2 software interface. The main window is titled "Parameter Setting" and displays a table of parameters for "Axis1". The table has columns for "No.", "Abbr.", "Name", "Unit", and "Setting range". The parameter PT01.1 is highlighted, and its value "0000 0315" is shown in the "Setting range" column. A red box highlights this value. The table also includes parameters for PT02 through PT17.

No.	Abbr.	Name	Unit	Setting range
PT01	**CTY	Command mode selection		00000000-00000315 0000 0315
PT02	*TOP1	Function selection T-1		00000001-10000001 0000 0001
PT03	*FTY	Feed function selection		00000000-00000300 0000 0000
PT04		For manufacturer setting		00000000-00000000 0000 0000
PT05	ZRF	Homing speed	r/min mm/s	0.00-167772.15 100.00
PT06	CRF	Creep speed	r/min mm/s	0.00-167772.15 100.00
PT07	ZST	Home position shift distance		0-2147483647 0
PT08	ZPS	Homing position data		-47483648-2147483647 0
PT09	DCT	Travel distance after proximity dog		0-2147483647 1000
PT10	ZTM	Stopper type homing - Stopping time	ms	5-1000 100
PT11	ZIT	Stopper type homing - Torque limit value	%	0.1-100.0 15.0
PT12	CRP	Rough match output range		0-2147483647 0
PT13		For manufacturer setting		00000000-00000000 0000 0000
PT14	*BNC	For manufacturer setting		0-0 0
PT15	LMP	Software position limit +		-47483648-2147483647 0
PT16		For manufacturer setting		00000000-00000000 0000 0000
PT17	LMN	Software position limit -		-47483648-2147483647 0

Set [PT01.1, Speed/acceleration/deceleration unit selection] to [1 (Speed: Command unit/s, acceleration/deceleration: command unit/s²)].

3.2.4 Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



The screenshot shows the MELSOFT MR Configurator2 software interface. The main window is titled "Parameter Setting" and displays a table of parameters for "Positioning control". The table has columns for "No.", "Abbr.", "Name", "Unit", "Setting range", and "Axis Writing". The PT01 parameter is highlighted, showing its name as "Command mode selection" and its value as "0000 0310".

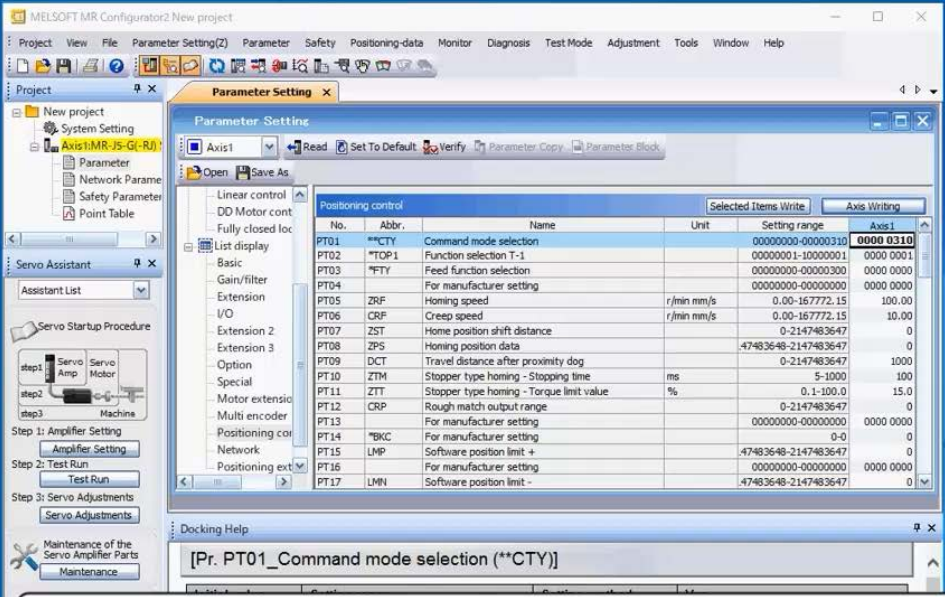
No.	Abbr.	Name	Unit	Setting range	Axis Writing
PT01	**CTY	Command mode selection		00000000-00000310	0000 0310
PT02	*TOP1	Function selection T-1		00000001-10000001	0000 0001
PT03	*FTY	Feed function selection		00000000-00000300	0000 0000
PT04		For manufacturer setting		00000000-00000000	0000 0000
PT05	ZRF	Homing speed	r/min mm/s	0.00-167772.15	100.00
PT06	CRP	Creep speed	r/min mm/s	0.00-167772.15	100.00
PT07	ZST	Home position shift distance		0-2147483647	0
PT08	ZPS	Homing position data		-47483648-2147483647	0
PT09	DCT	Travel distance after proximity dog		0-2147483647	1000
PT10	ZTM	Stopper type homing - Stopping time	ms	5-1000	100
PT11	ZTT	Stopper type homing - Torque limit value	%	0.1-100.0	15.0
PT12	CRP	Rough match output range		0-2147483647	0
PT13		For manufacturer setting		00000000-00000000	0000 0000
PT14	*BNC	For manufacturer setting		0-0	0
PT15	LMP	Software position limit +		-47483648-2147483647	0
PT16		For manufacturer setting		00000000-00000000	0000 0000
PT17	LMN	Software position limit -		-47483648-2147483647	0

Point

* The command unit is fixed to pulse.
Therefore, the speed unit is not "r/min" but "pulse/s".

3.2.4 Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



The screenshot shows the MELSOFT MR Configurator2 software interface. The main window is titled "Parameter Setting" and is focused on "Axis 1". The "Positioning control" table is visible, listing parameters from PT01 to PT17. The "Axis Writing" column shows the values for Axis 1, with PT01 set to 0000 0310. A callout box at the bottom of the screenshot contains the text: "Now you have completed the parameter settings."

No.	Abbr.	Name	Unit	Setting range	Axis Writing
PT01	**CTY	Command mode selection		00000000-00000310	0000 0310
PT02	*TOP1	Function selection T-1		00000001-10000001	0000 0001
PT03	*FTY	Feed function selection		00000000-00000300	0000 0000
PT04		For manufacturer setting		00000000-00000000	0000 0000
PT05	ZRF	Homing speed	r/min mm/s	0.00-167772.15	100.00
PT06	CRP	Creep speed	r/min mm/s	0.00-167772.15	100.00
PT07	ZST	Home position shift distance		0-2147483647	0
PT08	ZPS	Homing position data		-47483648-2147483647	0
PT09	DCT	Travel distance after proximity dog		0-2147483647	1000
PT10	ZTM	Stopper type homing - Stopping time	ms	5-1000	100
PT11	ZTT	Stopper type homing - Torque limit value	%	0.1-100.0	15.0
PT12	CRP	Rough match output range		0-2147483647	0
PT13		For manufacturer setting		00000000-00000000	0000 0000
PT14	*BNC	For manufacturer setting		0-0	0
PT15	LMP	Software position limit +		-47483648-2147483647	0
PT16		For manufacturer setting		00000000-00000000	0000 0000
PT17	LMN	Software position limit -		-47483648-2147483647	0

3.2.4

Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.

Click the [Axis Writing] button.

Positioning No.	Eng range	Axis 1
PT01	0000-000000310	0000 0310
PT02	00001-00000001	0000 0001
PT03	00000000-00000300	0000 0000
PT04	00000000-00000000	0000 0000
PT05	*FTY Feed function selection	
PT06	ZRF Homing speed	0.00-167772.15
PT07	CRF Creep speed	0.00-167772.15
PT08	ZST Home position shift distance	0-2147483647
PT09	ZPS Homing position data	0-2147483647
PT10	DCT Travel distance after proximity dog	0-2147483647
PT11	ZTM Stopper type homing - Stopping time	ms 5-1000
PT12	ZTT Stopper type homing - Torque limit value	% 0.1-100.0
PT13	CRP Rough match output range	0-2147483647
PT14	*BNC For manufacturer setting	0-0
PT15	LMP Software position limit +	0-2147483647
PT16	LMM Software position limit -	0-2147483647
PT17	LMN Software position limit -	0-2147483647

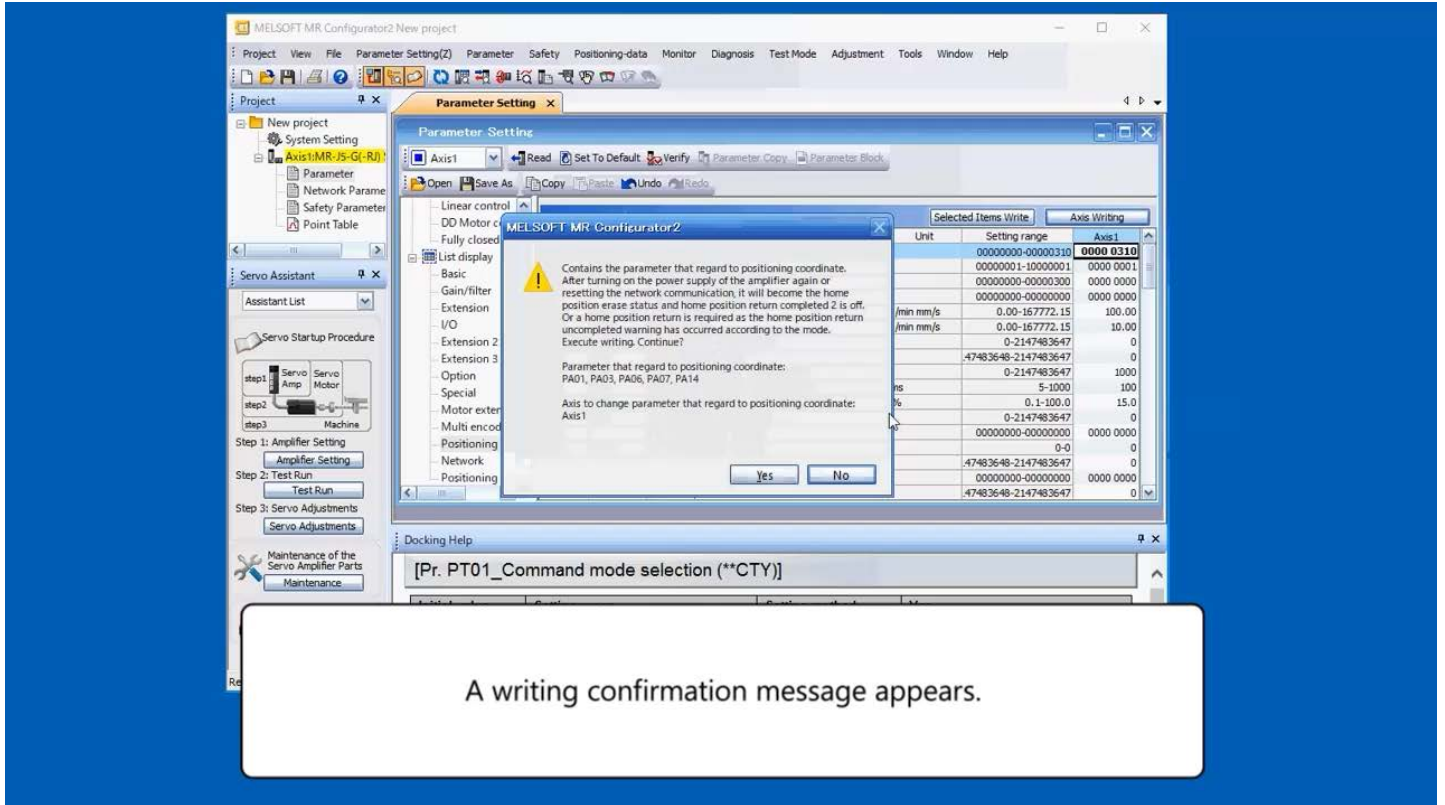
[Pr. PT01_Command mode selection (**CTY)]

Initial value	Setting range	Setting method	Ver.
00000300h	Refer to the relevant detail No.	Each axis	Refer to the relevant detail No.

[Pr. PT01.1_Speed/acceleration/deceleration unit selection]

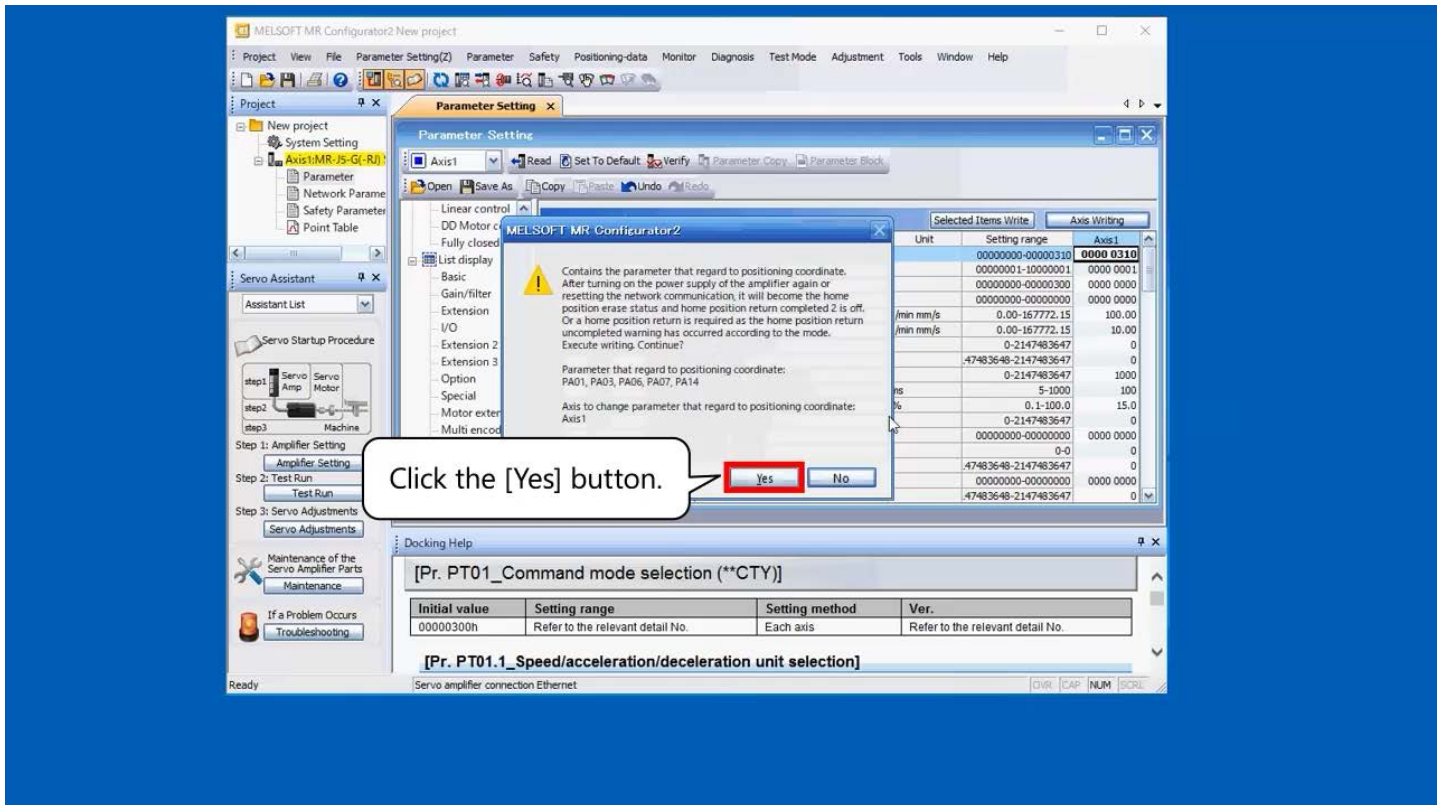
3.2.4 Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



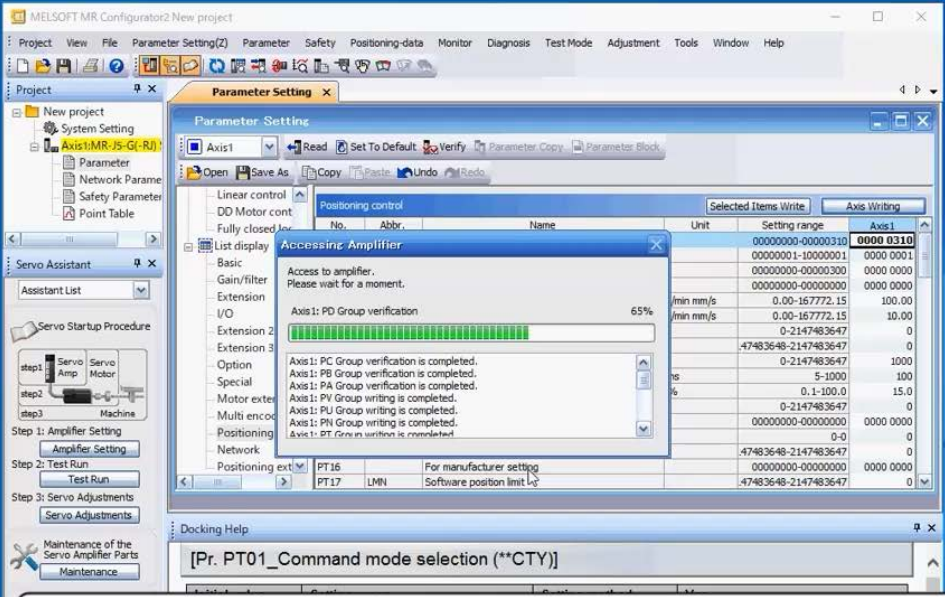
3.2.4 Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



3.2.4 Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.

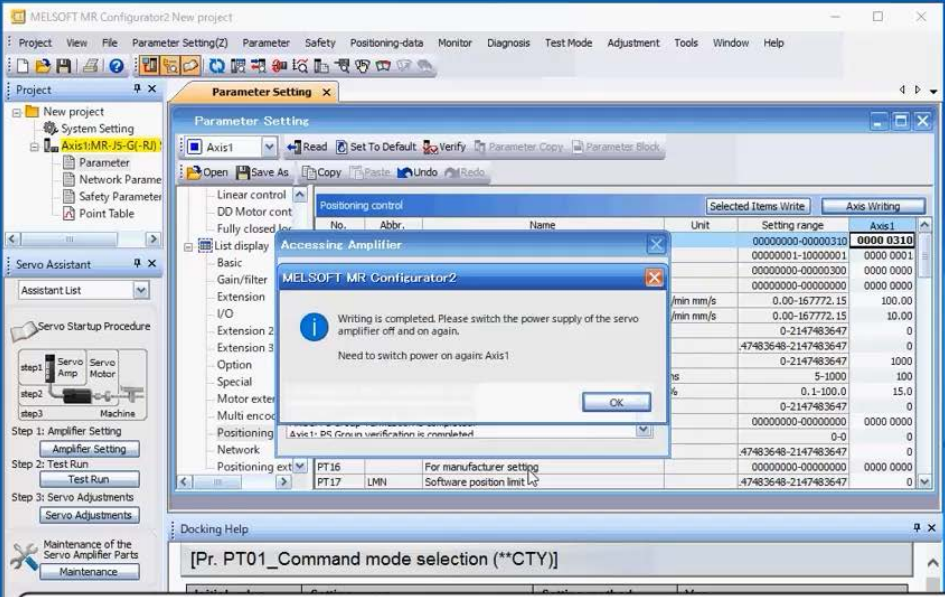


The screenshot shows the MELSOFT MR Configurator2 software interface. The main window is titled "Parameter Setting" and is focused on "Axis 1". The interface includes a menu bar, a toolbar, and a sidebar with navigation options like "New project", "System Setting", "Parameter", "Network Parameter", "Safety Parameter", and "Point Table". The "Servo Assistant" sidebar on the left shows the "Servo Startup Procedure" with steps: "Step 1: Amplifier Setting", "Step 2: Test Run", and "Step 3: Servo Adjustments". The main parameter table lists various settings such as "Linear control", "Positioning control", "Gain/filter", "Extension", "I/O", "Option", "Special", "Motor exte", "Multi encod", "Positioning", and "Network". A progress bar for "Axis 1: PD Group verification" is at 65%. A status message at the bottom of the window reads: "[Pr. PT01_Command mode selection (**CTY)]".

Writing of servo parameters starts and all parameters are written to the servo amplifier.

3.2.4 Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



The screenshot shows the MELSOFT MR Configurator2 software interface. The main window is titled 'Parameter Setting' and is focused on 'Axis 1'. A dialog box titled 'Accessing Amplifier' is open, displaying the following message:

Writing is completed. Please switch the power supply of the servo amplifier off and on again.
Need to switch power on again: Axis 1

The background window shows a table of parameters for Axis 1. The table has columns for 'No.', 'Abbr.', 'Name', 'Unit', 'Setting range', and 'Axis Writing'. The 'Axis Writing' column shows the value '0000 0310' for the 'Linear control' parameter.

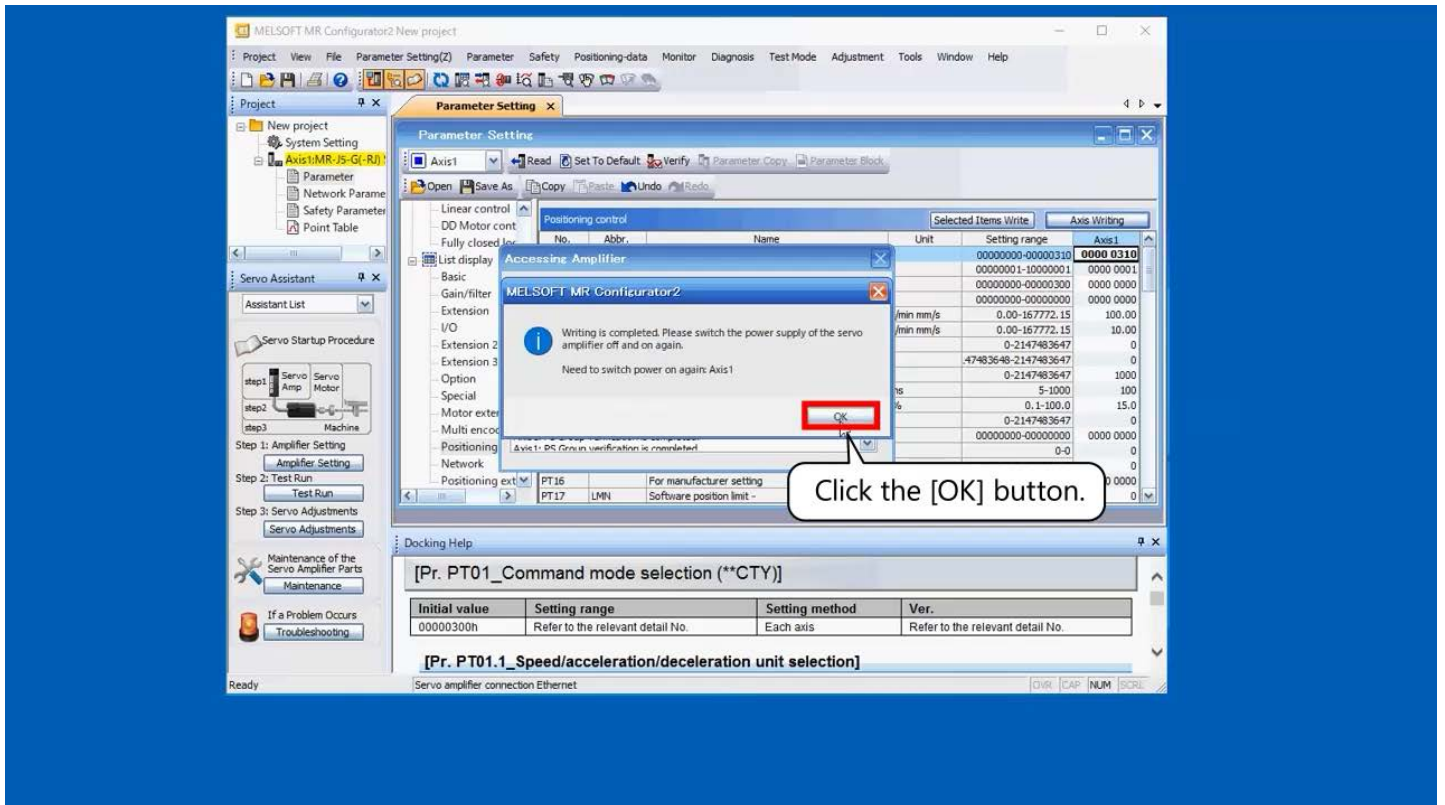
No.	Abbr.	Name	Unit	Setting range	Axis Writing
		Linear control		00000000-00000310	0000 0310
		DD Motor control		00000001-10000001	0000 0001
		Gain/filter		00000000-00000300	0000 0000
		Extension		00000000-00000000	0000 0000
		I/O		0.00-167772.15	100.00
		Extension 2	/min mm/s	0.00-167772.15	100.00
		Extension 3	/min mm/s	0-2147483647	0
		Option		0-2147483647	0
		Special		5-1000	1000
		Motor exten	%	0.1-100.0	15.0
		Multi encod		0-2147483647	0
		Positioning		00000000-00000000	0000 0000
		Network		0-0	0
		Positioning ext		0-0	0
		PT16		For manufacturer setting	00000000-00000000
		PT17	LMN	Software position limit	0000 0000

At the bottom of the screenshot, there is a text box with the following text:

If the writing operation is completed successfully, a message prompting you to cycle the servo amplifier power appears.

3.2.4 Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.



3.2.4 Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.

[Software Reset] icon

200 to 240 V AC

Moulded-case circuit breaker (MCCB)

Magnetic contactor (MCC)

Servo amplifier control power

[Pr. PT01_Command mode selection (**CTY)]

Cycle the servo amplifier control power or click the [Software Reset] icon to reset the servo amplifier. (The servo parameters marked with * or ** in the servo parameter abbreviation are enabled.)

3.2.4

Parameter setting procedure 2

For the parameter setting procedure of the servo amplifier using MR Configurator2, see the video below. Before the operation, check that the project created in Section 3.2.2 is displayed.

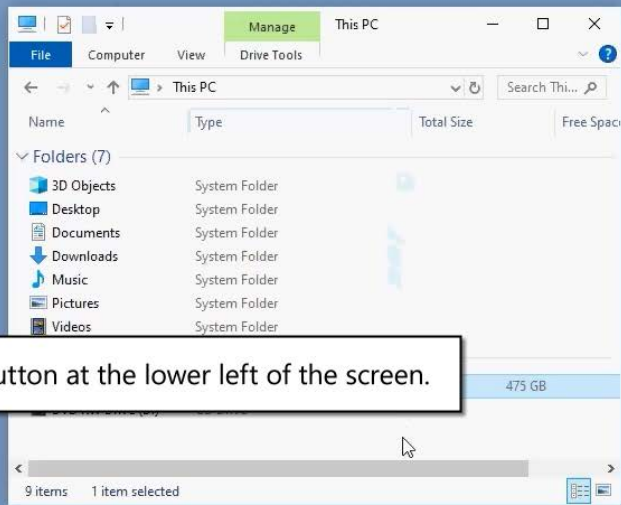
The screenshot displays the MELSOFT MR Configurator2 interface. The 'Parameter Setting' window is active, showing a list of parameters (PT03 to PT17) and their descriptions. A callout box highlights the '[Software Reset] icon' (a circular arrow) in the top toolbar. Another callout box shows a power diagram for 'Servo amplifier control power', featuring a 'Molded-case circuit breaker (MCCB)' and a 'Magnetic contactor (MC)' connected to a '200 to 240 V AC' source and the 'MR-J5-G-RJ' servo amplifier. The diagram also shows connections to terminals CNP1 and CNP2. A white box at the bottom of the image contains the text: 'Go to the next page.'

Name	Description
PT03	*FTY Feed function selection
PT04	For manufacturer setting
PT05	ZRF Homing speed
PT06	CRF Creep speed
PT07	ZST Home position shift distance
PT08	ZPS Homing position data
PT09	DCT Travel distance after proximity dog
PT10	ZTM Stopper type homing - Stopping time
PT11	ZTT Stopper type homing - Torque limit value
PT12	CRP Rough match output range
PT13	For manufacturer setting
PT14	*BNC For manufacturer setting
PT15	LMP Software position limit +
PT16	For manufacturer setting
PT17	LMN Software position limit -

This section describes the processing order of the sample program that is used to perform the basic operation of the servo axis. The basic program flow is as follows. Preparation processing → Application processing → End processing

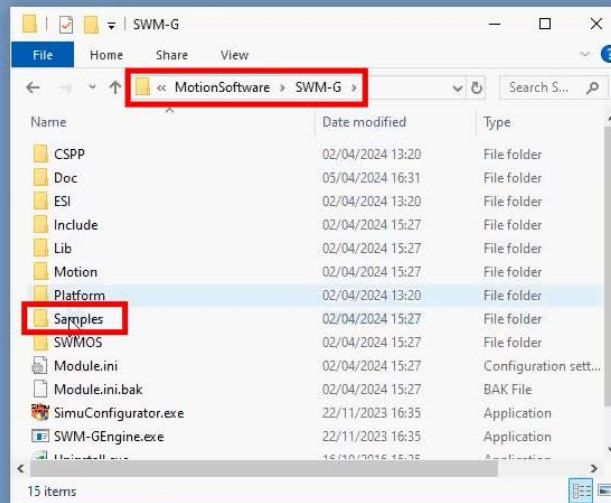
Processing status	Processing order	Description	Detail
Preparation processing	1	Device creation	A device is an object of the SSCApi class that opened the communication channel with the SWM-G engine. Applications using the SWM-G library call the CreateDevice function at the start.
	2	Communication start	The communication with the platform where the engine is operating is started with the StartCommunication function.
Application Processing	3	Servo ON	Many motion functions are arranged in the CoreMotion module. The SetServoOn function in the CoreMotion module is called to perform the servo ON.
	4	Home position return	The home position return parameter is read with GetHomeParam. The home position return type is changed to the current position (CurrentPos), and the home position return parameter is set with the SetHomeParam function. The home position return is performed with the StartHome function.
	5	Positioning operation	The motion profile is specified to perform the positioning operation with the StartMov function. The motion profile determines the movement speed from the current position to the target position, acceleration, and jerk shape.
	6	Servo OFF	The servo OFF is performed with the SetServoOn function.
End processing	7	Communication stop	When the communication is started with StartCommunication, the device must be closed after the communication is stopped with StopCommunication.
	8	Device closing	The application calls the CloseDevice function before the end.

This section describes the procedure for opening the sample program. In this description, Visual Studio 2019 is used. For the procedure, see the video below.



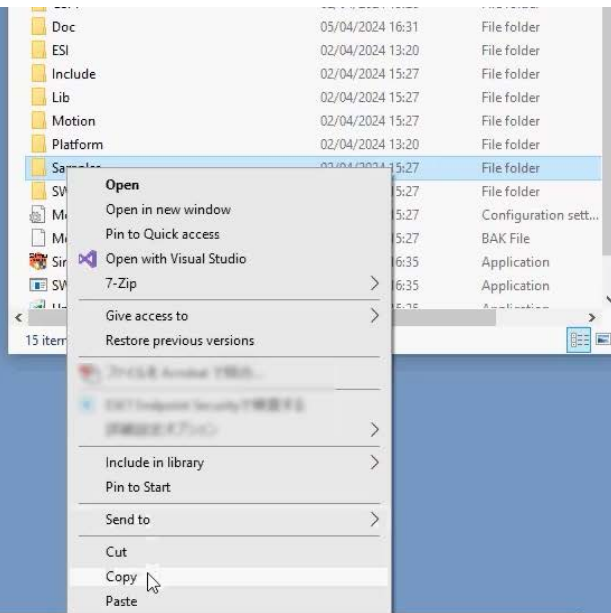
When SWM-G is installed in the default save destination, sample projects are stored in the "C:\Program Files\MotionSoftware\SWM-G\Samples" folder.

This section describes the procedure for opening the sample program. In this description, Visual Studio 2019 is used. For the procedure, see the video below.



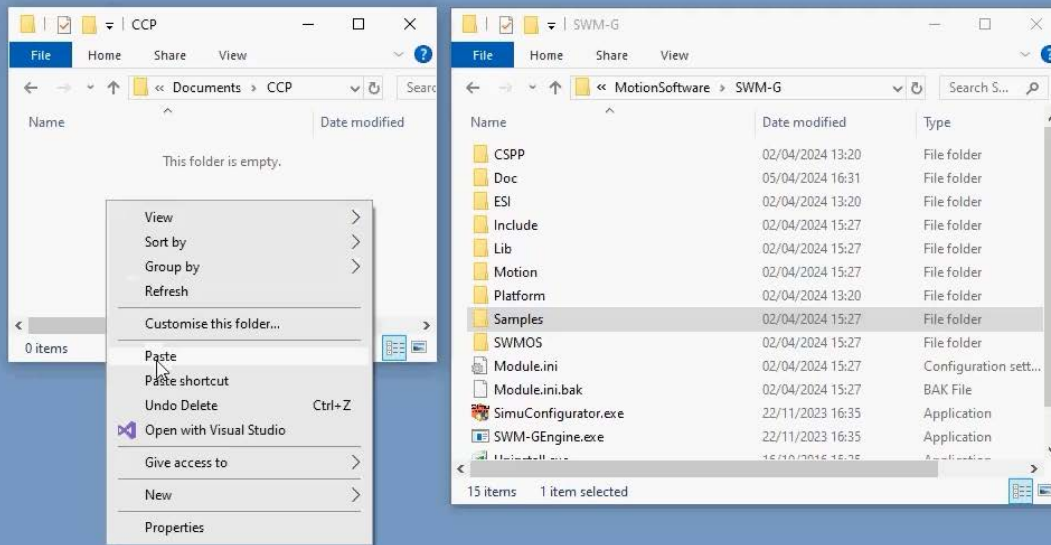
When SWM-G is installed in the default save destination, sample projects are stored in the "C:\Program Files\MotionSoftware\SWM-G\Samples" folder.

This section describes the procedure for opening the sample program.
In this description, Visual Studio 2019 is used. For the procedure, see the video below.



Copy the "Samples" folder to any location where the folder can be edited.

This section describes the procedure for opening the sample program. In this description, Visual Studio 2019 is used. For the procedure, see the video below.



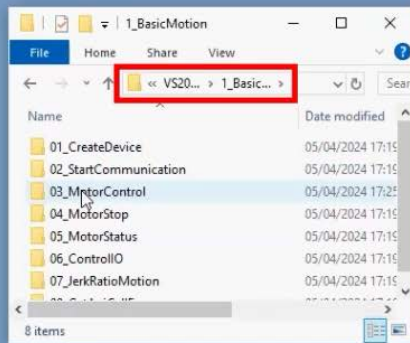
Copy the "Samples" folder to any location where the folder can be edited.

This section describes the procedure for opening the sample program. In this description, Visual Studio 2019 is used. For the procedure, see the video below.



In this description, use sample programs that perform the basic operation of the servo axis.

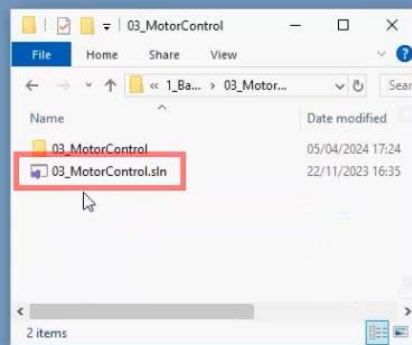
This section describes the procedure for opening the sample program.
In this description, Visual Studio 2019 is used. For the procedure, see the video below.



Open the "`\Cpp\VS□□□□\1_BasicMotion\03_MotorControl`" folder in the "Samples" folder copied to the desired destination.

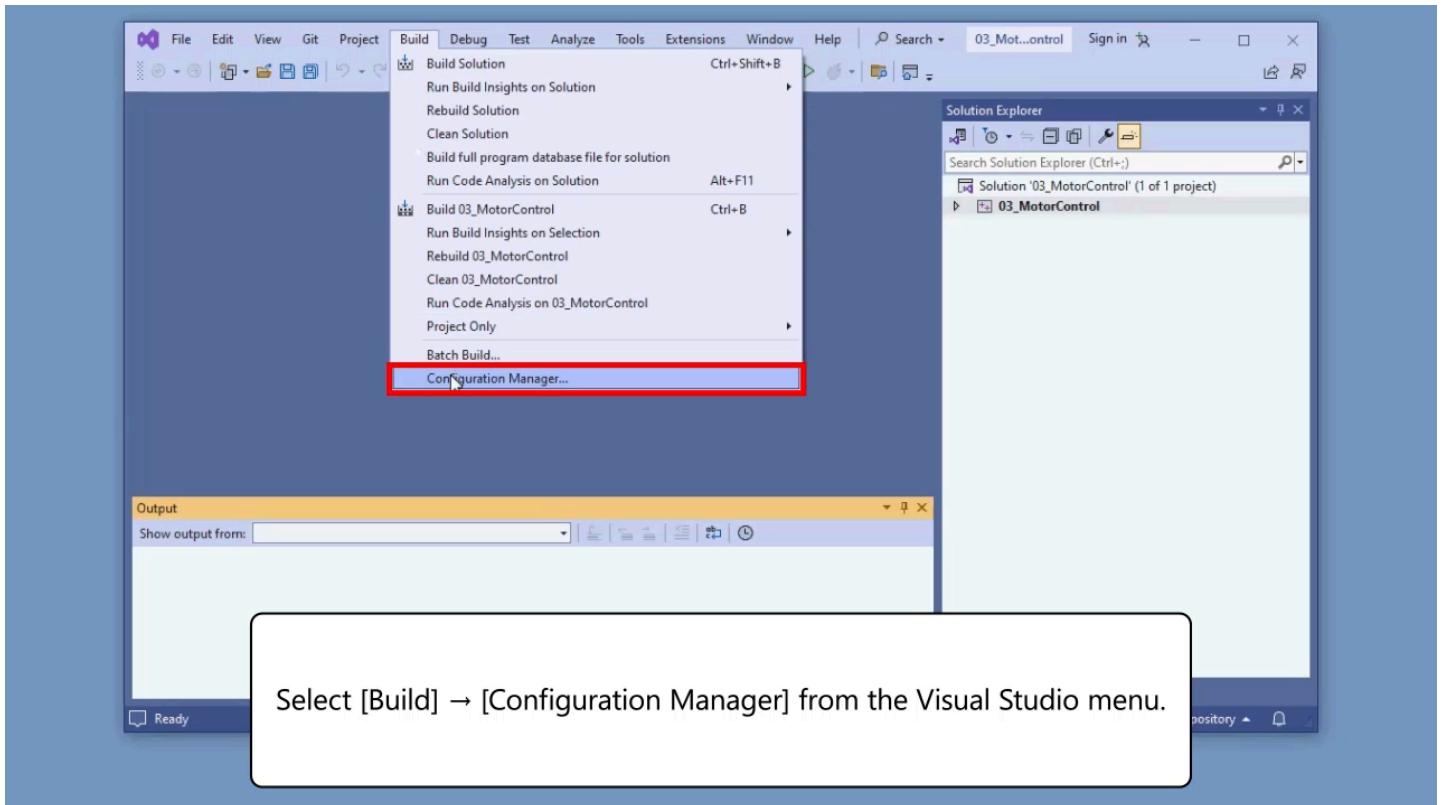
* □□□□: Version of Visual Studio to be used

This section describes the procedure for opening the sample program. In this description, Visual Studio 2019 is used. For the procedure, see the video below.

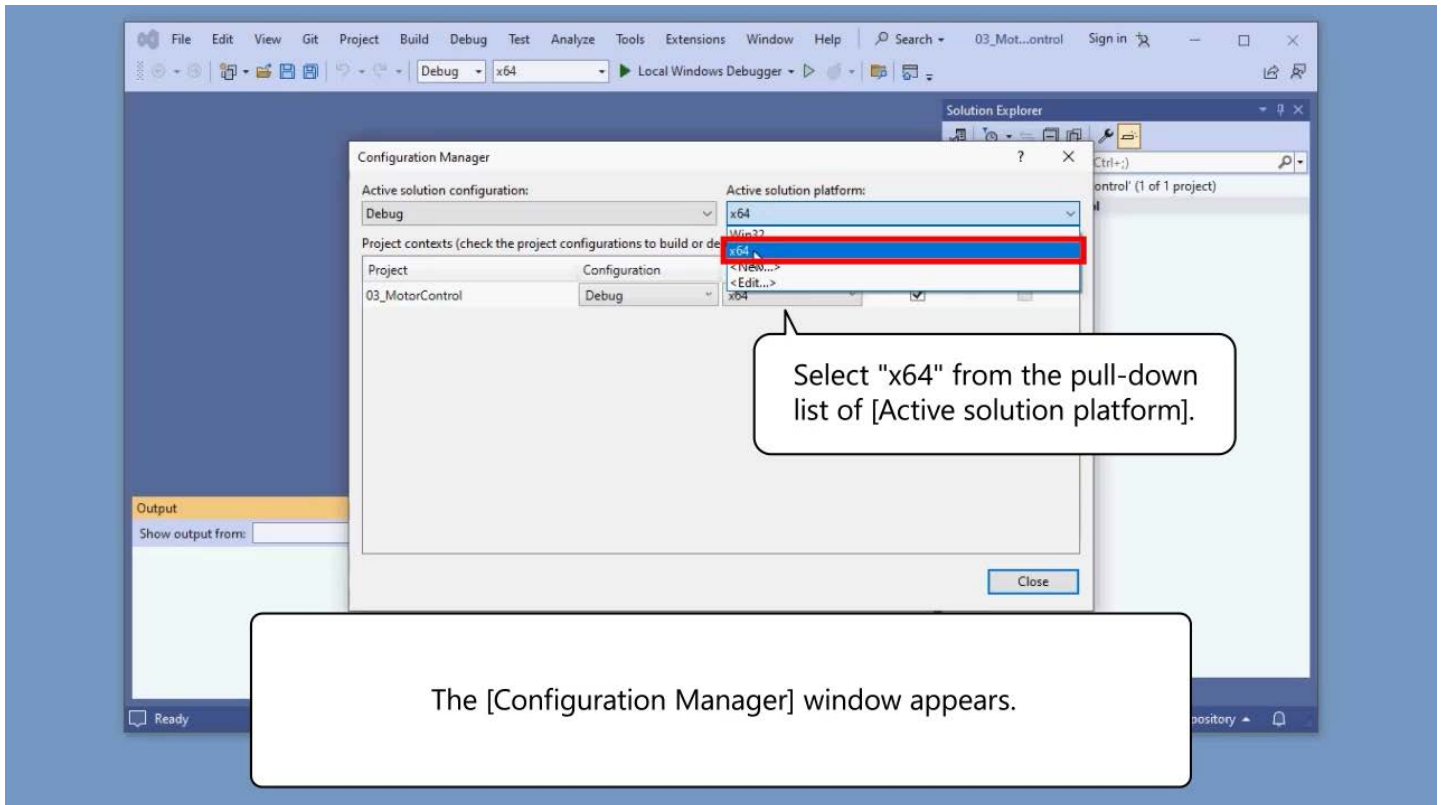


Open "03_MotorControl.sln" (solution file) in Visual Studio.

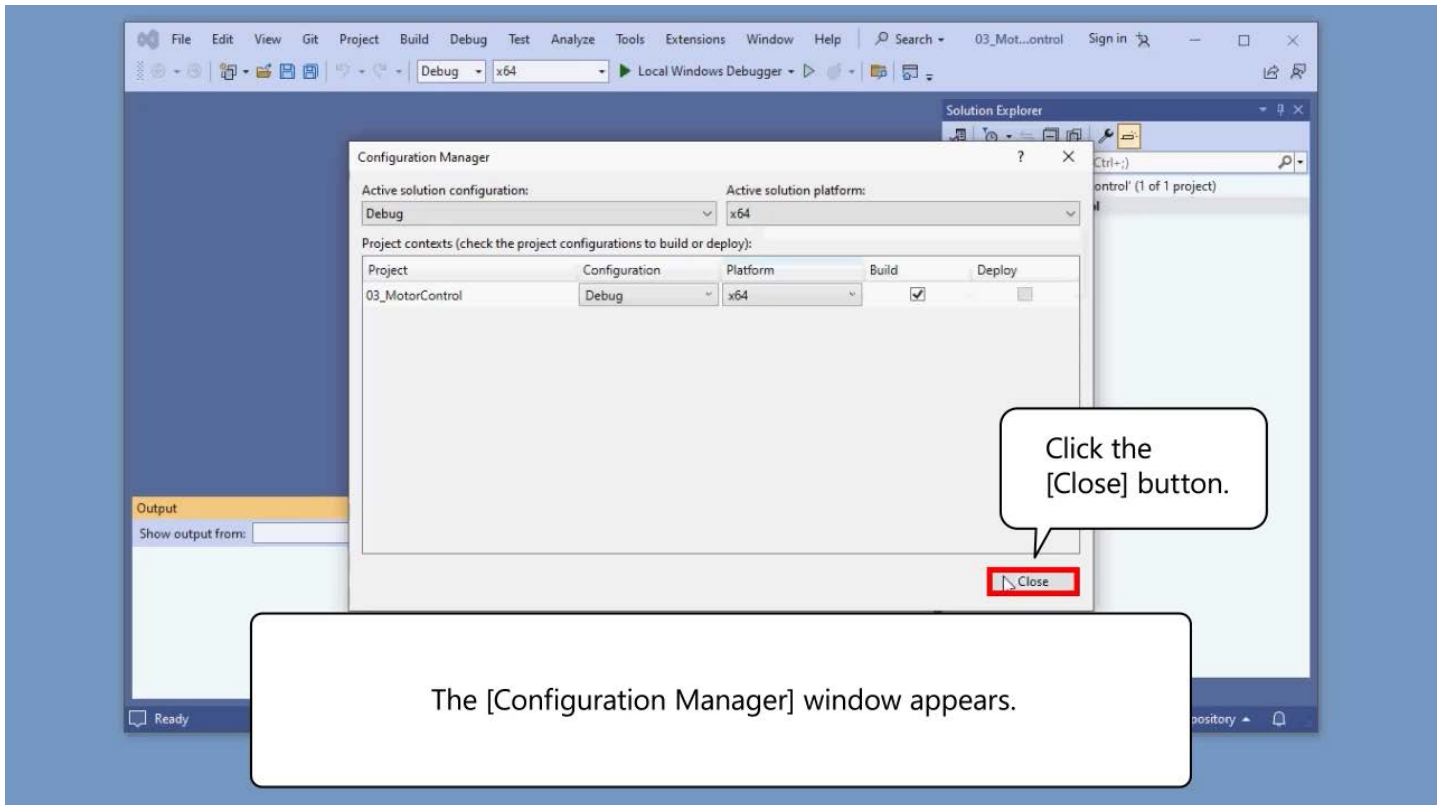
This section describes the procedure for opening the sample program. In this description, Visual Studio 2019 is used. For the procedure, see the video below.



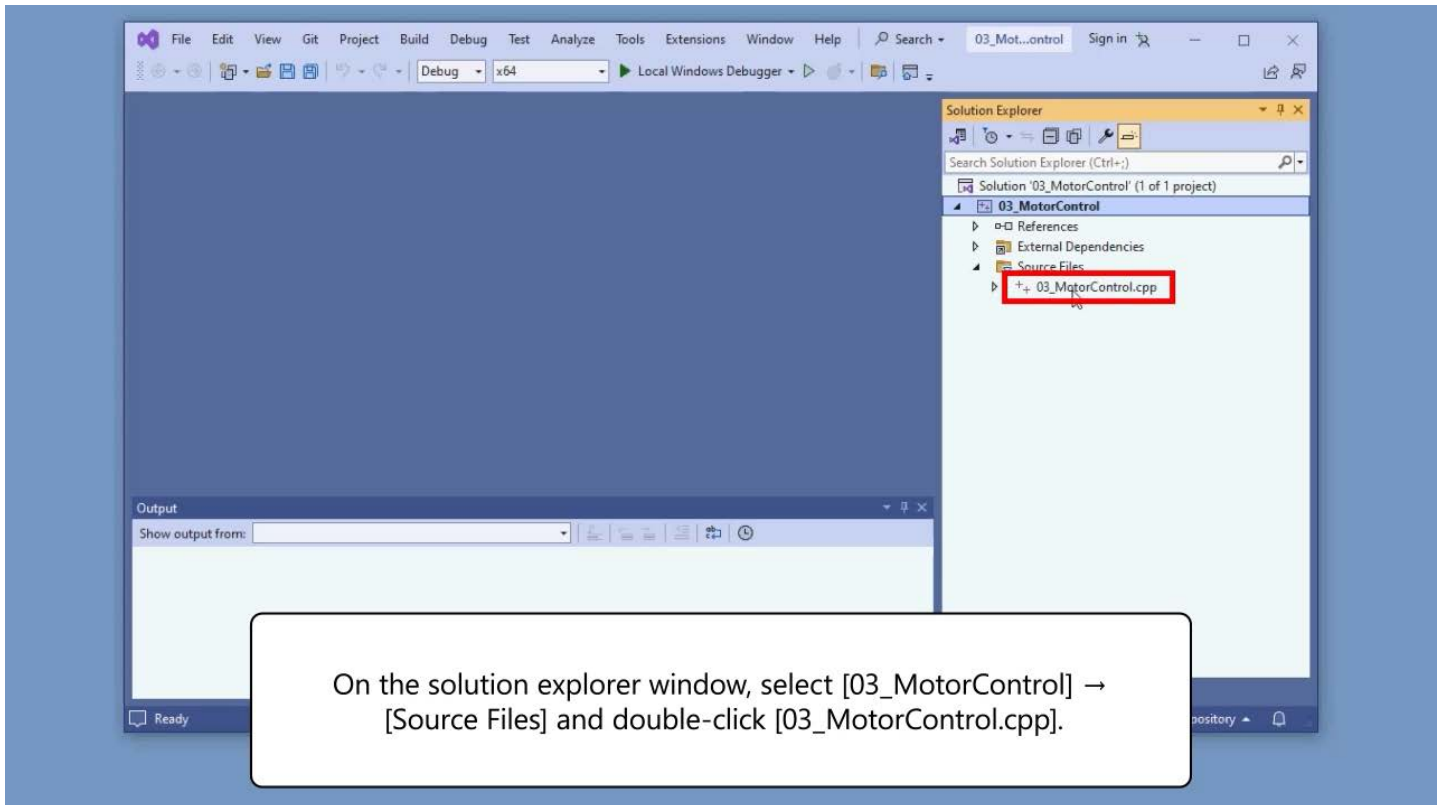
This section describes the procedure for opening the sample program. In this description, Visual Studio 2019 is used. For the procedure, see the video below.



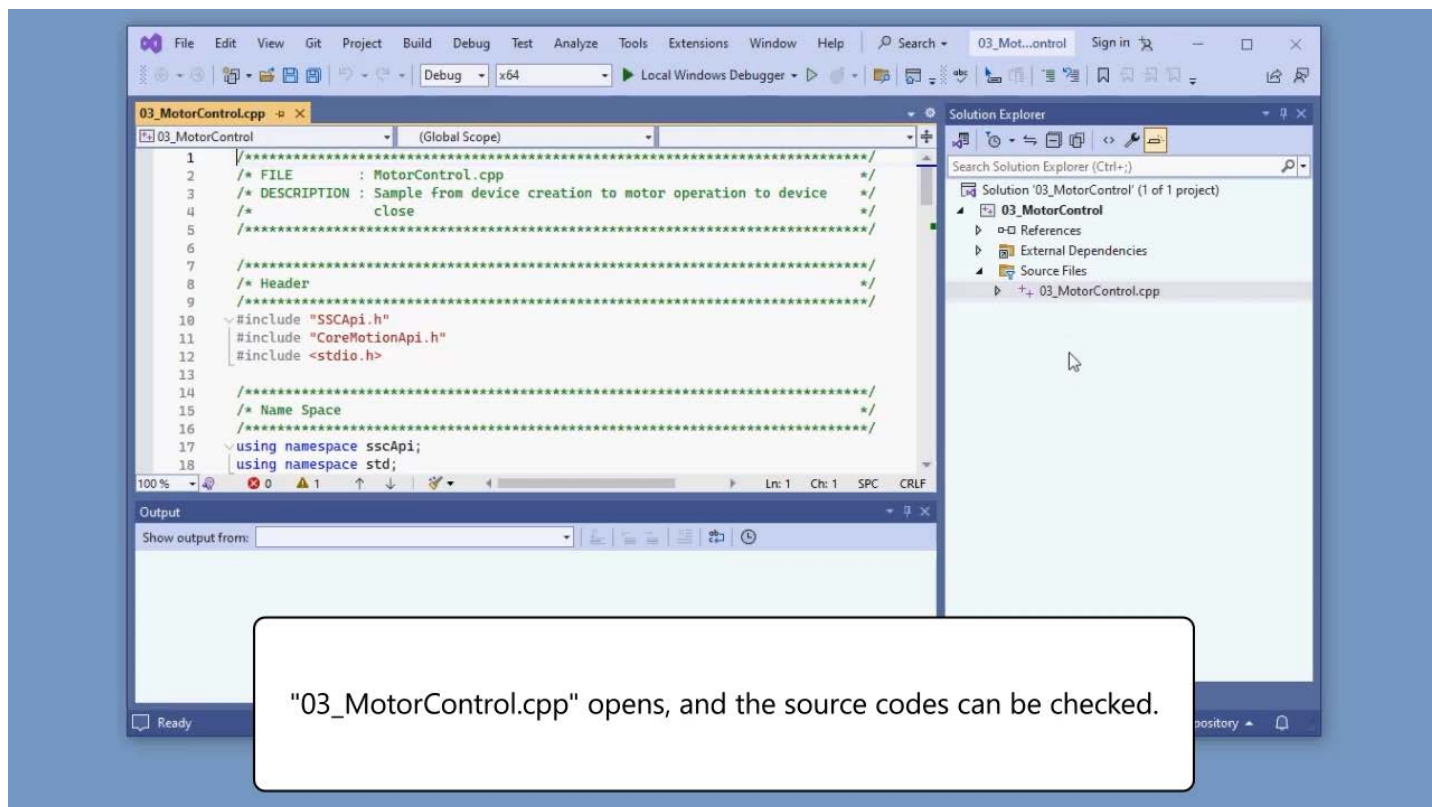
This section describes the procedure for opening the sample program. In this description, Visual Studio 2019 is used. For the procedure, see the video below.



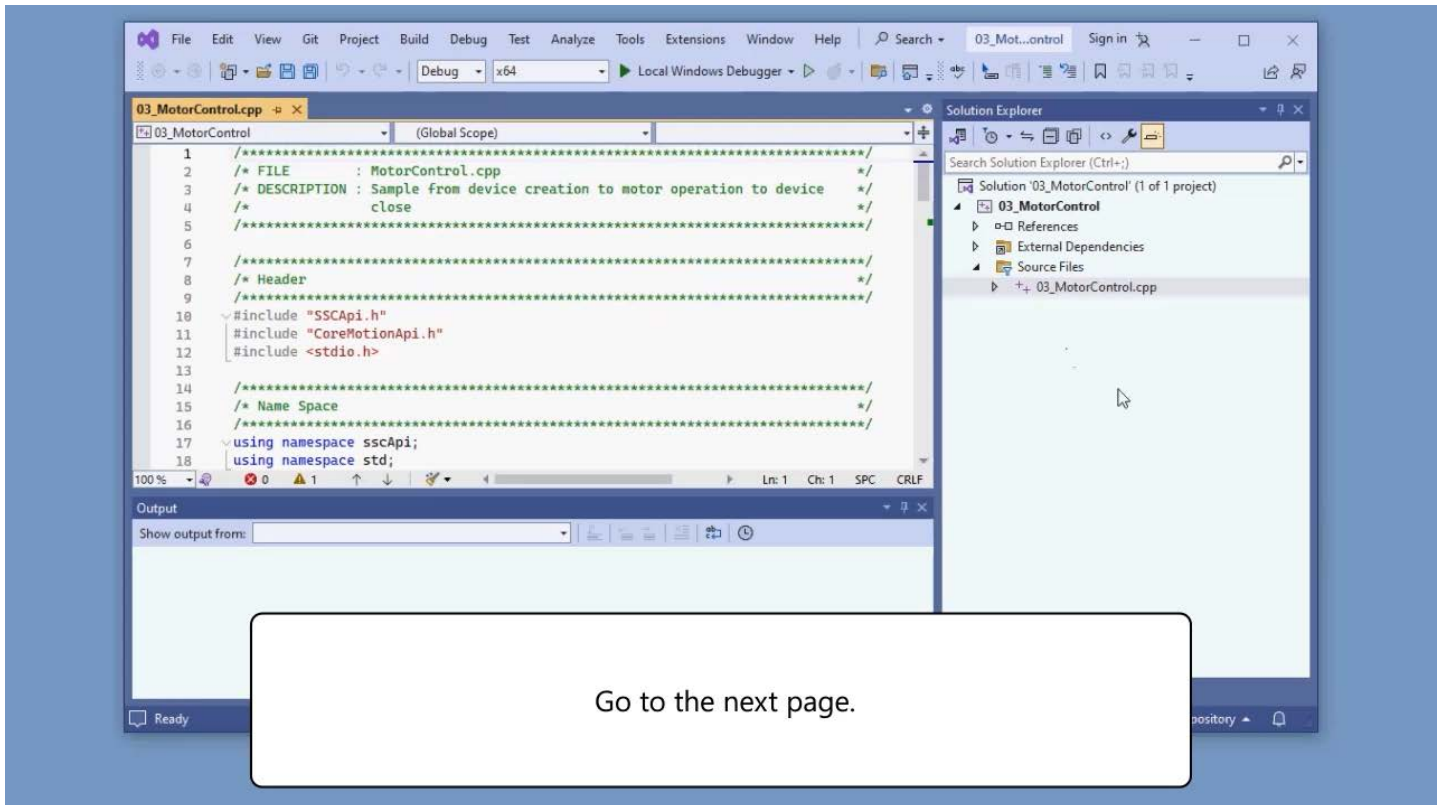
This section describes the procedure for opening the sample program. In this description, Visual Studio 2019 is used. For the procedure, see the video below.



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This section describes the parameter and positioning data setting. The sample project is designed to run with the default parameters. In this description, the data is modified for the following gear setting and positioning operation setting. The setting procedures are described in the following sections.

■ Gear setting

Parameter name	Setting value
Gear ratio Numerator	67108864
Gear ratio Denominator	1000

■ Positioning operation setting

Item	Description
Motion profile	Trapezoid
Axis number	Axis0
Target position	100000[μm]
Target speed	25000[$\mu\text{m}/\text{s}$]
Acceleration	100000[$\mu\text{m}/\text{s}^2$]
Deceleration	100000[$\mu\text{m}/\text{s}^2$]

This section describes the gear setting.

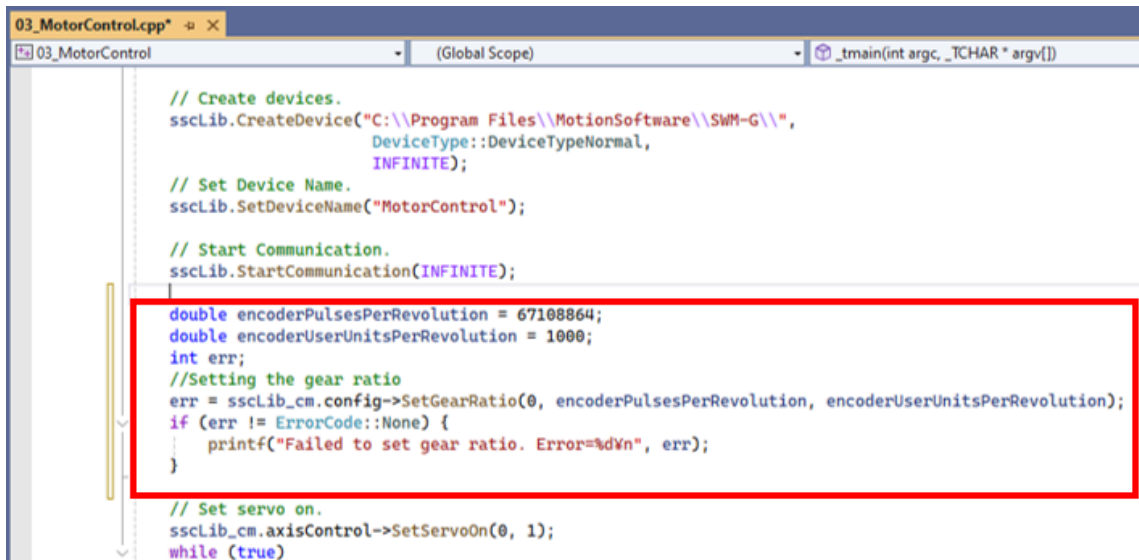
- Enter the following code after the 46th line of the "03_MotorControl.cpp" file opened in the previous section.
 - If the gear setting fails, the message appears and the processing continues without setting.

Code to be entered

```
double encoderPulsesPerRevolution = 67108864;
double encoderUserUnitsPerRevolution = 1000;
int err;
// Set the gear ratio.
err = sscLib_cm.config->SetGearRatio(0, encoderPulsesPerRevolution, encoderUserUnitsPerRevolution);
if (err != ErrorCode::None) {
printf("Failed to set gear ratio. Error=%d\n", err);
}
```

[Code entry example]

The codes in the 47th to 55th lines in the following figure are the entered codes.



```
03_MotorControl.cpp*  x
03_MotorControl (Global Scope) _tmain(int argc, _TCHAR * argv[])

// Create devices.
sscLib.CreateDevice("C:\\Program Files\\MotionSoftware\\SWM-G\\",
DeviceType::DeviceTypeNormal,
INFINITE);

// Set Device Name.
sscLib.SetDeviceName("MotorControl");

// Start Communication.
sscLib.StartCommunication(INFINITE);

double encoderPulsesPerRevolution = 67108864;
double encoderUserUnitsPerRevolution = 1000;
int err;
//Setting the gear ratio
err = sscLib_cm.config->SetGearRatio(0, encoderPulsesPerRevolution, encoderUserUnitsPerRevolution);
if (err != ErrorCode::None) {
printf("Failed to set gear ratio. Error=%d\n", err);
}

// Set servo on.
sscLib_cm.axisControl->SetServoOn(0, 1);
while (true)
```

This section describes the modification of the positioning data.

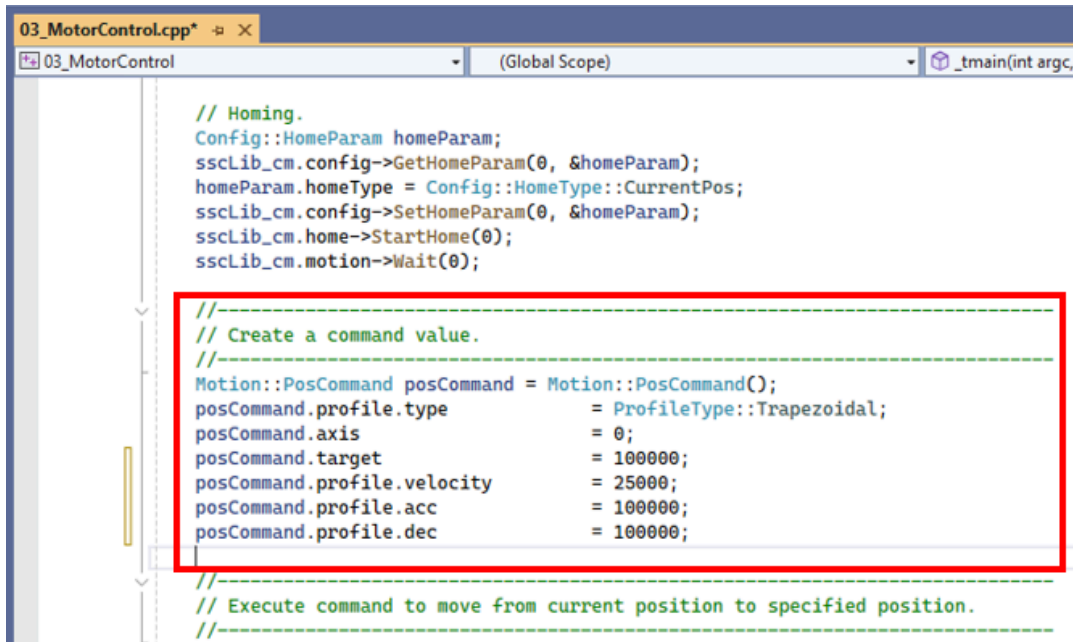
- Modify the codes in the 78th line and after of the "03_MotorControl.cpp" file edited in the previous section as follows.

```
Code after the modification

//-----
// Create a command value.
//-----
Motion::PosCommand posCommand = Motion::PosCommand();
posCommand.profile.type = ProfileType::Trapezoidal;
posCommand.axis = 0;
posCommand.target = 100000;
posCommand.profile.velocity = 25000;
posCommand.profile.acc = 100000;
posCommand.profile.dec = 100000;
```

[Code modification example]

The codes in the 78th to 87th lines in the following figure are the modified codes.



```
03_MotorControl.cpp*  x
03_MotorControl (Global Scope) _tmain(int argc,

// Homing.
Config::HomeParam homeParam;
sscLib_cm.config->GetHomeParam(0, &homeParam);
homeParam.homeType = Config::HomeType::CurrentPos;
sscLib_cm.config->SetHomeParam(0, &homeParam);
sscLib_cm.home->StartHome(0);
sscLib_cm.motion->Wait(0);

//-----
// Create a command value.
//-----
Motion::PosCommand posCommand = Motion::PosCommand();
posCommand.profile.type = ProfileType::Trapezoidal;
posCommand.axis = 0;
posCommand.target = 100000;
posCommand.profile.velocity = 25000;
posCommand.profile.acc = 100000;
posCommand.profile.dec = 100000;

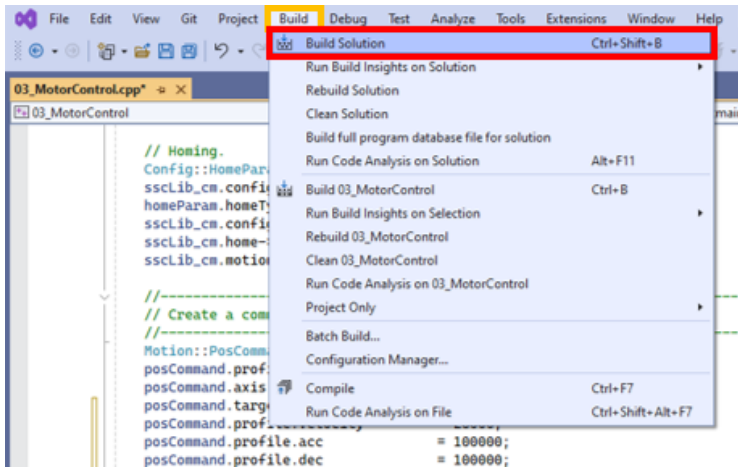
//-----
// Execute command to move from current position to specified position.
//-----
```

This section describes the procedure for executing the build.

■ Execute the build.

Select [Build] → [Build Solution] from the Visual Studio menu.

- The build is executed.



- When the build is completed, the output results are displayed in the output window of Visual Studio.

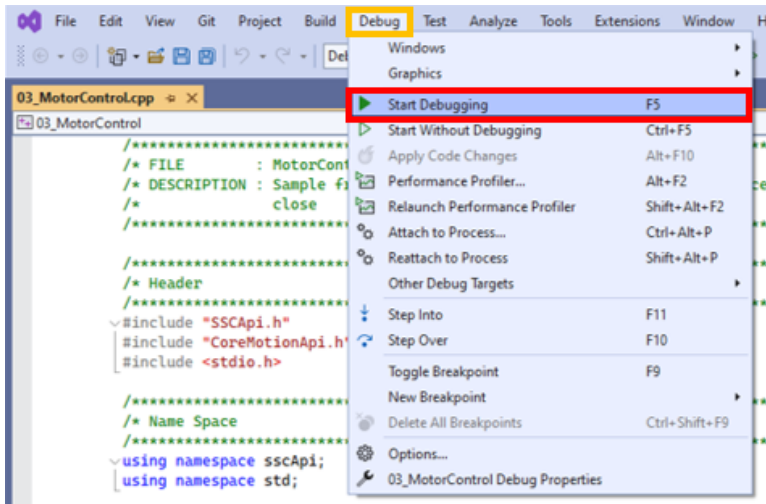
```
Output
Show output from: Build
Build started at 12:00 PM...
1>----- Build started: Project: 03_MotorControl, Configuration: Debug x64 -----
1>03_MotorControl.cpp
1>C:\Users\%USER%\Documents\CCP\Samples\Cpp\Src\1_BasicMotion\03_MotorControl\03_MotorControl\03_MotorControl.cpp(53,16):
1>03_MotorControl.vcxproj -> C:\Users\%USER%\Documents\CCP\Samples\Cpp\VS2019\1_BasicMotion\03_MotorControl\ReleaseFiles\
1> 1 file(s) copied.
1>Done building project "03_MotorControl.vcxproj".
===== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped =====
===== Build completed at 12:00 PM and took 00.960 seconds =====
|
```

This section describes the procedure for executing the program.

■ Execute the program.

Select [Debug] → [Start Debugging] from the Visual Studio menu to run the program.

- The debug starts.



In this chapter, you have learned:

- Construction of the Target System
- Parameter Setting
- Operation Details of the Sample Program
- Opening the Sample Program
- Parameter and Positioning Data Setting
- Executing the Build
- Executing the Program

Point

Construction of the Target System	The target system in this Chapter is a 1-axis ball screw that consists of a personal computer, 1-axis servo amplifier, servo motor, and others.
Parameter Setting	In the parameter setting, set the parameters of the servo amplifier. In this section, the parameters are set via the CC-Link IE TSN network using MR Configurator2.
Operation Details of the Sample Program	You have learned the flow of the program that is used to perform the basic operation of the servo axis.
Opening the Sample Program	You have learned the procedure for opening the sample program in Visual Studio.
Parameter and Positioning Data Setting	In the parameter and positioning data setting, you have learned how to edit the default sample program based on the gear and positioning operation setting examples.
Executing the Build	You have learned the procedure for executing the build of the edited sample program.
Executing the Program	You have learned the procedure for executing the program using the debug function.

Select the correct word to fill in the blank () to complete the sentences below.

If the BIOS in the personal computer to be used supports (Q1), disable it.

Before installing SWM-G, update (Q2) and disable the update.

After registering the license of SWM-G, save (Q3) to a file. Keep this file in a safe place as it will be required for support.

Q1

-- Select --



Q2

-- Select --



Q3

-- Select --



- Q1:
- 1 : Hyper-Threading
 - 2 : Fast startup
 - 3 : Hyper-V

- Q2:
- 1 : Installer
 - 2 : RTX
 - 3 : Windows

- Q3:
- 1 : Dongle ID
 - 2 : License code
 - 3 : Registration information

Select the correct sentence from the following. (You may select multiple answers.)

- Download module used for installing SWM-G is available for download at Mitsubishi Electric Factory Automation Global Website.
- Windows 10 update program supporting RTX can be checked at the IntervalZero website.
- The RTX license is granted upon registration of the SWM-G license.
- RTX does not need to be updated as the latest version will be installed.
- The number of cores obtained by subtracting 1 from the number of cores of the CPU is assigned to RTX.

Select the correct sentence for SWMOS. (You may select multiple answers.)

- Once the master and remote station settings have been configured, SWM-G can be used.
- Before exporting parameter settings, click the "Apply" button to apply the parameters to the SWM-G engine.
- In the remote station setting, PDO that is sent and received via cyclic communication can be manually added.
- When SWMOS is restarted, the settings from the last time SWMOS was exited are automatically loaded.
- In single axis control, multiple axes cannot be controlled simultaneously.

Select the correct word to fill in the blank () to complete the sentences below.

When setting the axis No. to the servo amplifier, set an integer value from (Q1) to "Number of licensed axes - 1".

When using SWMOS for the first time, check and set (Q2) as the default setting.

To add a PDO object to the TXPDO mapping setting and assign an input address, start with (Q3).

Q1

-- Select --



Q2

-- Select --



Q3

-- Select --



- Q1:
- 1 : -1
 - 2 : 0
 - 3 : 1

- Q2:
- 1 : Platform setting
 - 2 : Master setting
 - 3 : Remote station setting

- Q3:
- 1 : RXPDO
 - 2 : IoInputAssignment
 - 3 : IoOutputAssignment

Select the correct sentence from the following. (You may select multiple answers.)

- To perform IP communication with the devices on the CC-Link IE TSN network, start the network communication of SWM-G first.**
- By configuring the servo parameter settings and axis data writing using MR Configurator2, the servo parameters are enabled.**
- SWM-G User Manual does not describe API Reference or tutorial.**
- The sample program is designed to run with the default parameters.**

Select the correct word to fill in the blank () to complete the sentences below.

If the BIOS in the personal computer to be used supports (Q1), disable it.

Before installing SWM-G, update (Q2) and disable the update.

After registering the license of SWM-G, save (Q3) to a file. Keep this file in a safe place as it will be required for support.

Q1

Hyper-Threading



Q2

Windows



Q3

Registration information



- Q1:
- 1 : Hyper-Threading
 - 2 : Fast startup
 - 3 : Hyper-V

- Q2:
- 1 : Installer
 - 2 : RTX
 - 3 : Windows

- Q3:
- 1 : Dongle ID
 - 2 : License code
 - 3 : Registration information

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To add a PDO object to the TXPDO mapping setting and assign an input address, start with (Q3).

Q1

0



Q2

Platform setting



Q3

IoInputAssignment



- Q1:
- 1 : -1
 - 2 : 0
 - 3 : 1

- Q2:
- 1 : Platform setting
 - 2 : Master setting
 - 3 : Remote station setting

- Q3:
- 1 : RXPDO
 - 2 : IoInputAssignment
 - 3 : IoOutputAssignment

You have completed the Final Test. Your results area as follows.
To end the Final Test, proceed to the next page.

	1	2	3	4	5	6	7	8	9	10
Final Test 1	✓	✓	✓							
Final Test 2	✓									
Final Test 3	✓									
Final Test 4	✓	✓	✓							
Final Test 5	✓									

Total questions: **9**

Correct answers: **9**

Percentage: **100 %**

Clear

You have completed the "Motion Control Software SWM-G Basics" Course.

Thank you for taking this course.

We hope you enjoyed the lessons and the information you acquired in this course is useful for configuring systems in the future.

You can review the course as many times as you want.

Review

Close