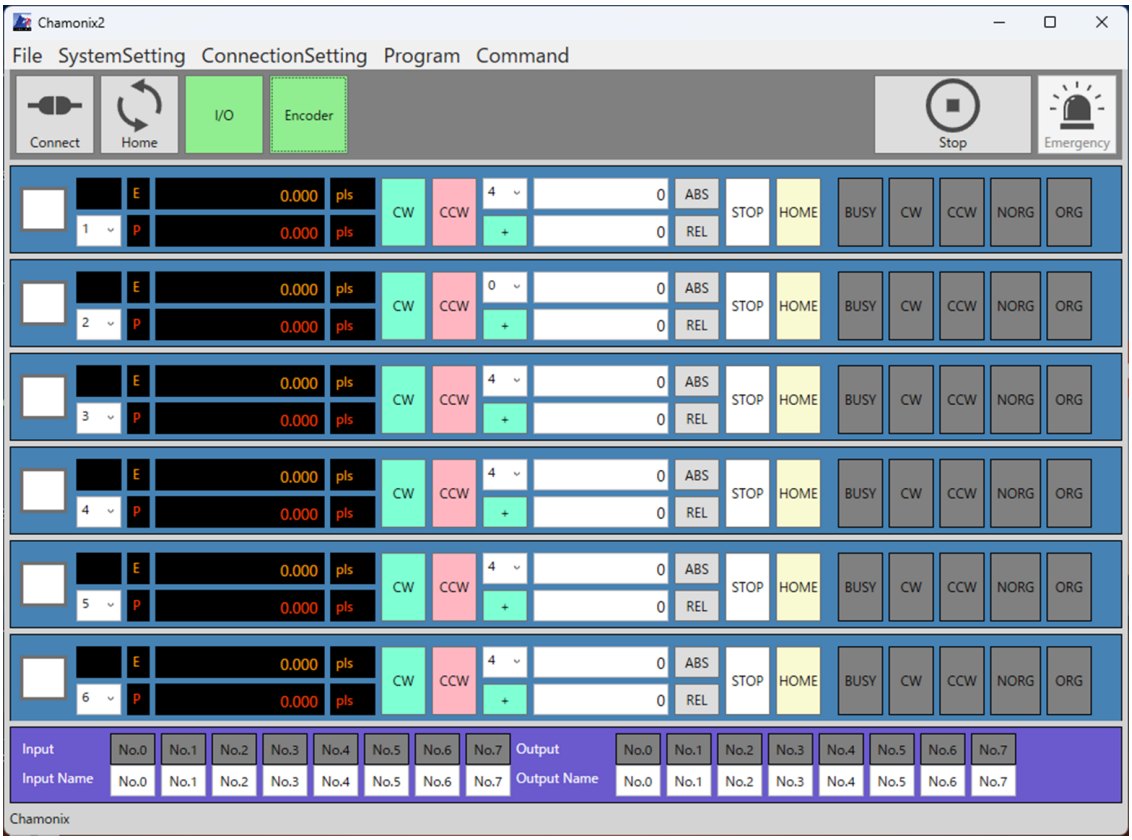
Chamonix2

User's Guide

Rev. 1.0.1



Kohzu Precision Co., Ltd.

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1. Introduction

1.1. About Chamonix 2

Chamonix2 is an application for controlling KOHZU Precision's motor controllers. You can control KOHZU Precision's motor controllers, KOSMOS series ARIES, LYNX, and CRUX-D.

The Chamonix2 features a GUI that allows simultaneous control of up to 6 axes and simple macro-like programming functions.

Communication with the controller utilizes RS-232C serial or TCP/IP communication.

This application is subject to change without notice.
Please read the license terms carefully before using it.

1.2. About this User's Guide

This guide describes the Chamonix 2 motor controller control application.

In order to fully utilize the performance and functions of "Chamonix2", please read it carefully and fully understand it before using it.

Also, please keep it carefully so that you can use it at any time.
Please take care to ensure that this book is delivered to the person who uses it in the end.

"Chamonix2" is available in Japanese and English, but the GUI of this guide is displayed in Japanese.

1.3. Precautions for use

Make sure that this application properly works in start of work and operation.

Provide sufficient safety measures to prevent various damage that may arise from accidental failure of this application.

If this product is used in improper conditions other than the terms provided in operation manuals and specifications decided separately, its features and performance cannot be guaranteed.

When this products is used with other devices, use the product after due consideration because the features and performance may not be satisfied depending on conditions of use and environment.

Please do not use to protect a human body.

Avoid the use with other application. Otherwise, features and performance may not be satisfied.

1.4. License Agreement Contents

Please read the following terms and conditions carefully before using this application.

Scope

- This License Agreement applies to Chamonix, a control application supplied as a package; various associated libraries; and all attached documents like manuals describing how to use them. Chamonix, associated libraries, and all attached documents are collectively referred to as the "Application". These documents include all media such as printed materials and electronic files.

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1.5. Supported OS and Operating Requirements

Supported OS

- Chamonix2 officially supports Windows 10® and Windows 11®.
- It supports x64 and is installed in Program Files.

Operating Requirements

- Chamonix2 is built using Microsoft .NET8. NET8 is required for installation.
- At least 100 MB of free memory space is required at startup.
- An interface to communicate with the controller such as RS-232C or TCP/IP is required.

1 2 3

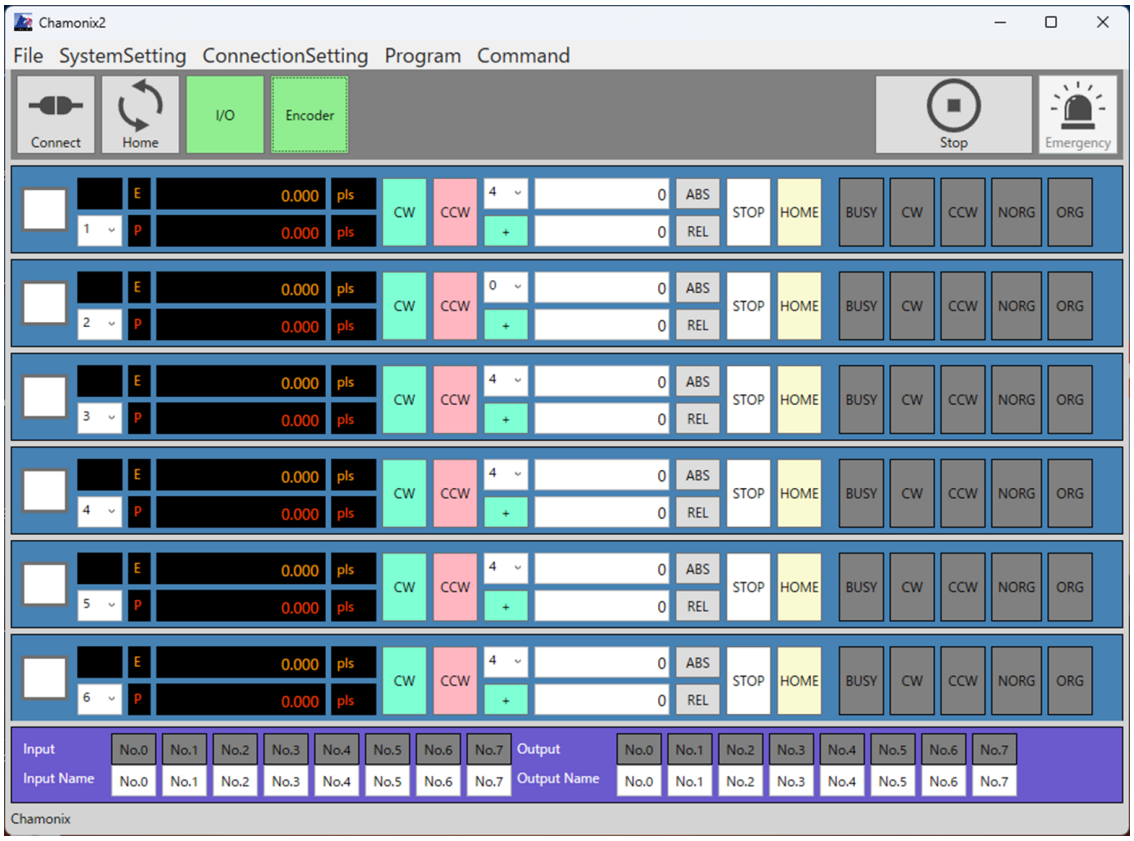
[1] Chamonix2 Ver.1.0.0.0 or higher.

[2] . NET8 and Windows® are trademarks or registered trademarks of Microsoft Corporation in the United States and other countries.

[3] WindowsXP,® Vista, 7, 8, are not supported.

1.6. Language

"Chamonix2" is available in Japanese and English. The language follows the language scheme of Windows input.



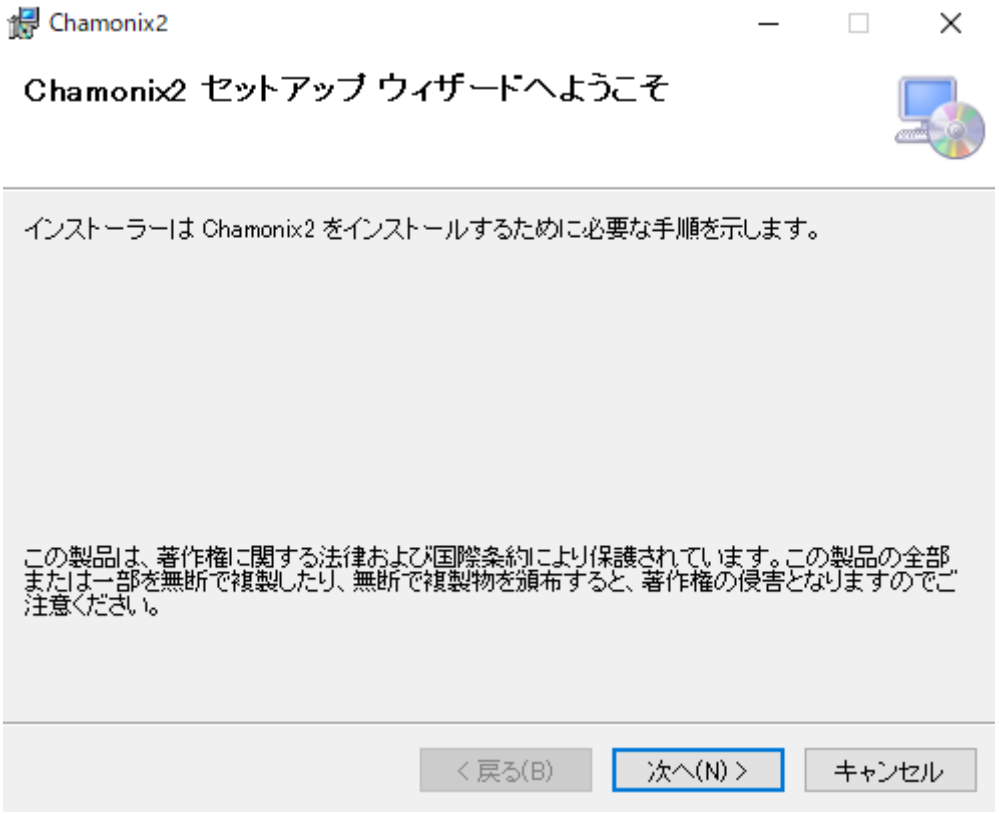
2. Install

2.1. Installation

Administrator privileges are required to install Chamonix2.
Click "SetupChamonix2.msi" to start the installation.
If you download it from our website, it will be in a ZIP archive.

2.2. Launching Setup

When you launch Setup.exe, the MSI Installer Wizard for Chamonix2 will open.



To proceed with the installation, click "Next".

To cancel the installation, click "Cancel".

The License Terms screen will appear next.

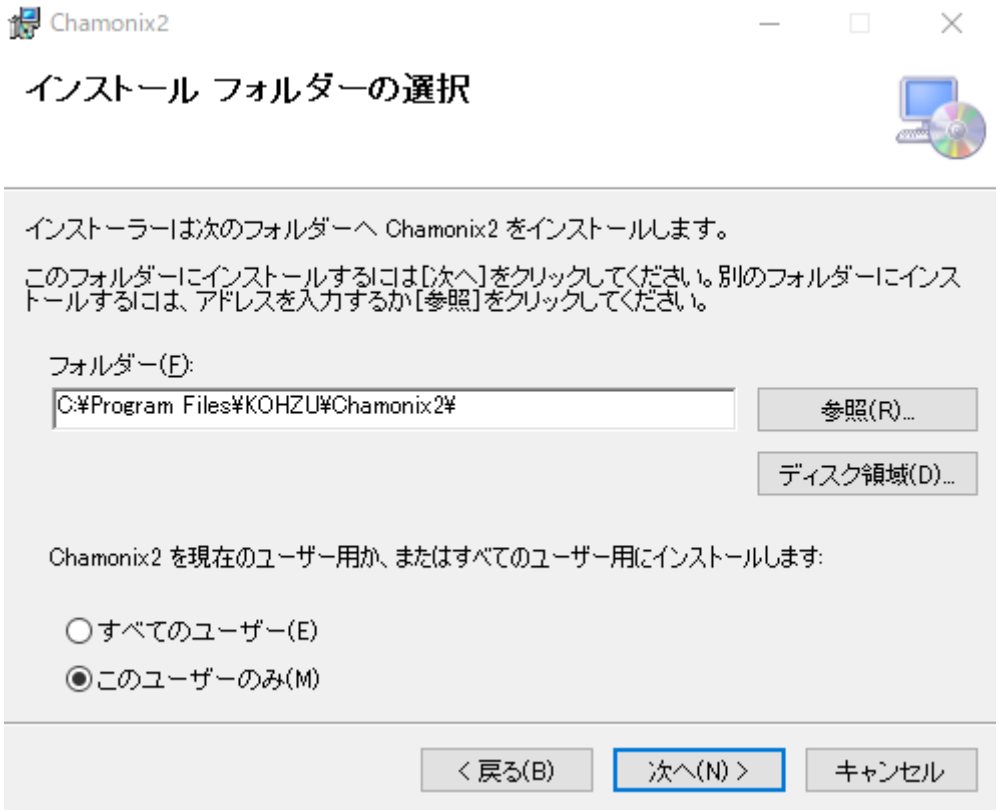
2.3. License Terms

If you agree to the license terms, select "Accept".

If you do not agree, select "I don't agree". In that case, the "Next" button will be disabled.

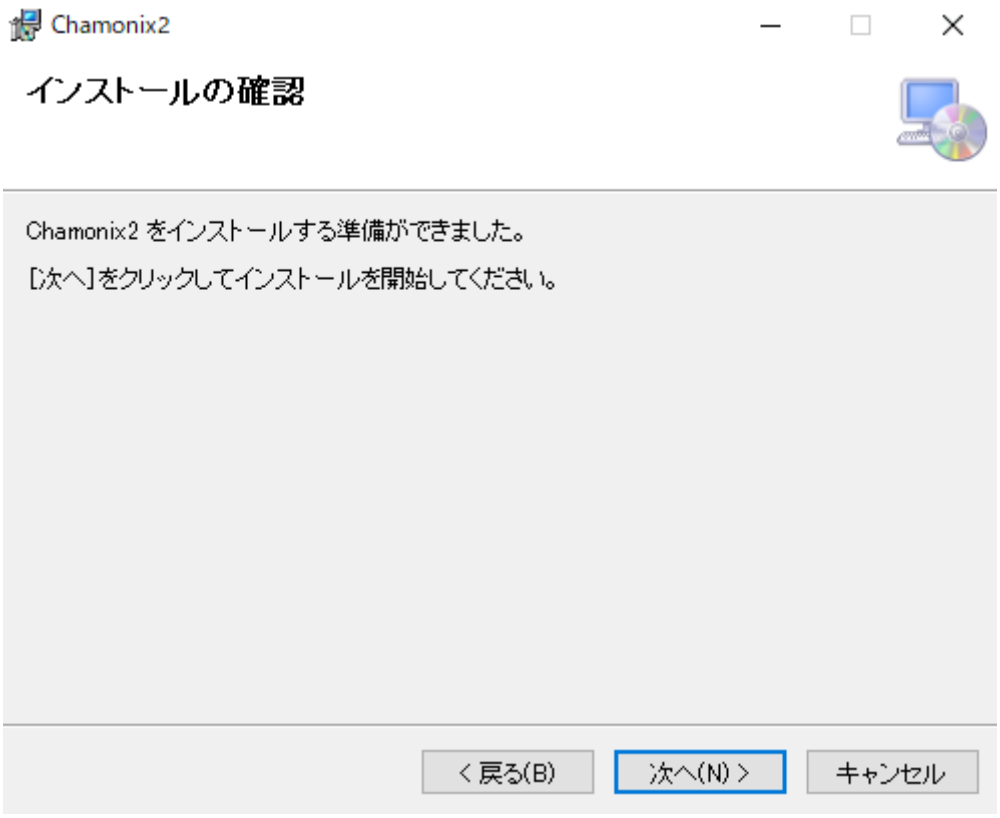
After agreeing to the license terms, press "Next" to go to the "Select Installation Folder" screen.

2.4. Confirm the installation folder



You can specify the installation folder to any location. If you don't have a specific location, you can leave it as the default.
You can also choose whether it is for the current user or for all users.
If the settings are correct, press "Next" to go to the "Confirm Installation" screen.

2.5. Confirm the installation

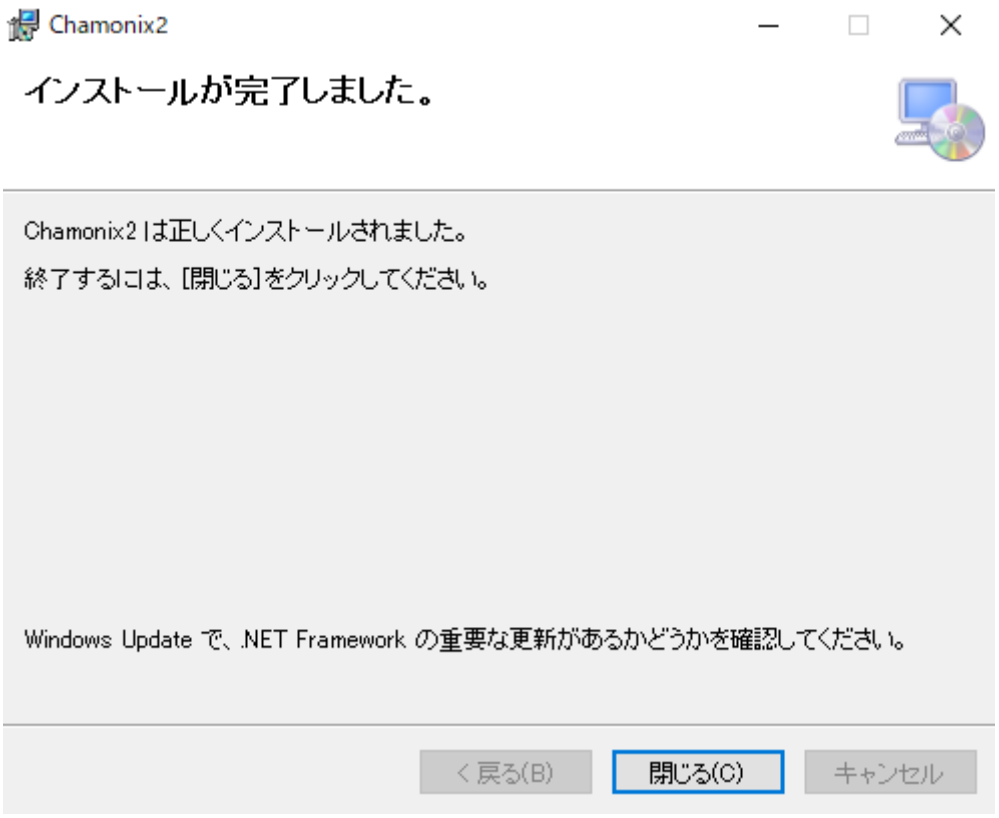


Press "Next" to perform the installation.

While performing the installation, the Control User Account dialog may open and ask you if you want to perform the installation. In this case, please check our code signing certificate for the Windows installer and press "Yes". If you press "No", the installation will not take place.

To check the contents of the license agreement again, click "Back".
Click "Cancel" to stop the installation.

2.6. Complete the installation



Press "Next" on the previous screen to perform the installation of Chamonix2. If you see a good screen, it is installed successfully.

Click 'Close' to exit the installation wizard.

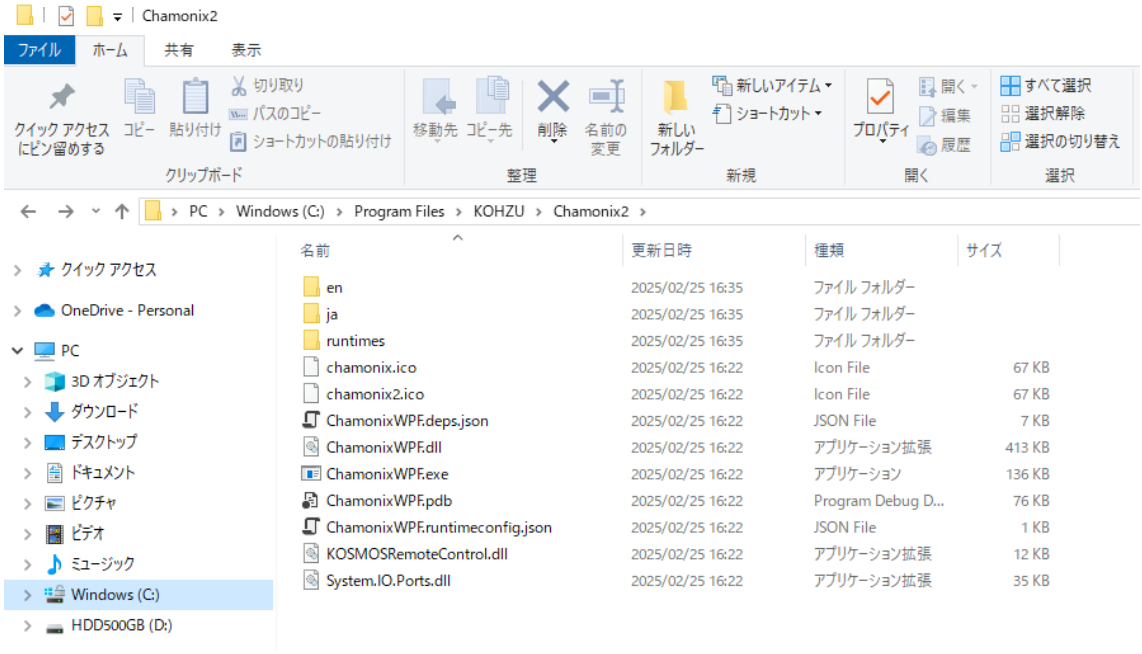
2.7. Deleting Old Versions

If you already have Chamonix2 or some of the dynamic link libraries that make up Chamonix2 installed, you may receive a warning message.

In this case, you need to remove the already installed Chamonix2 using the "Add or Remove Programs" icon in the Control Panel.

How to remove it will be explained in Uninstall.

2.8. Confirm the installation



When the installation is finished, the file will be generated in the specified folder as shown in the figure.

In the diagram, the default folder is the C:¥Program Files¥KOHZU¥Chamonix2 folder[4].

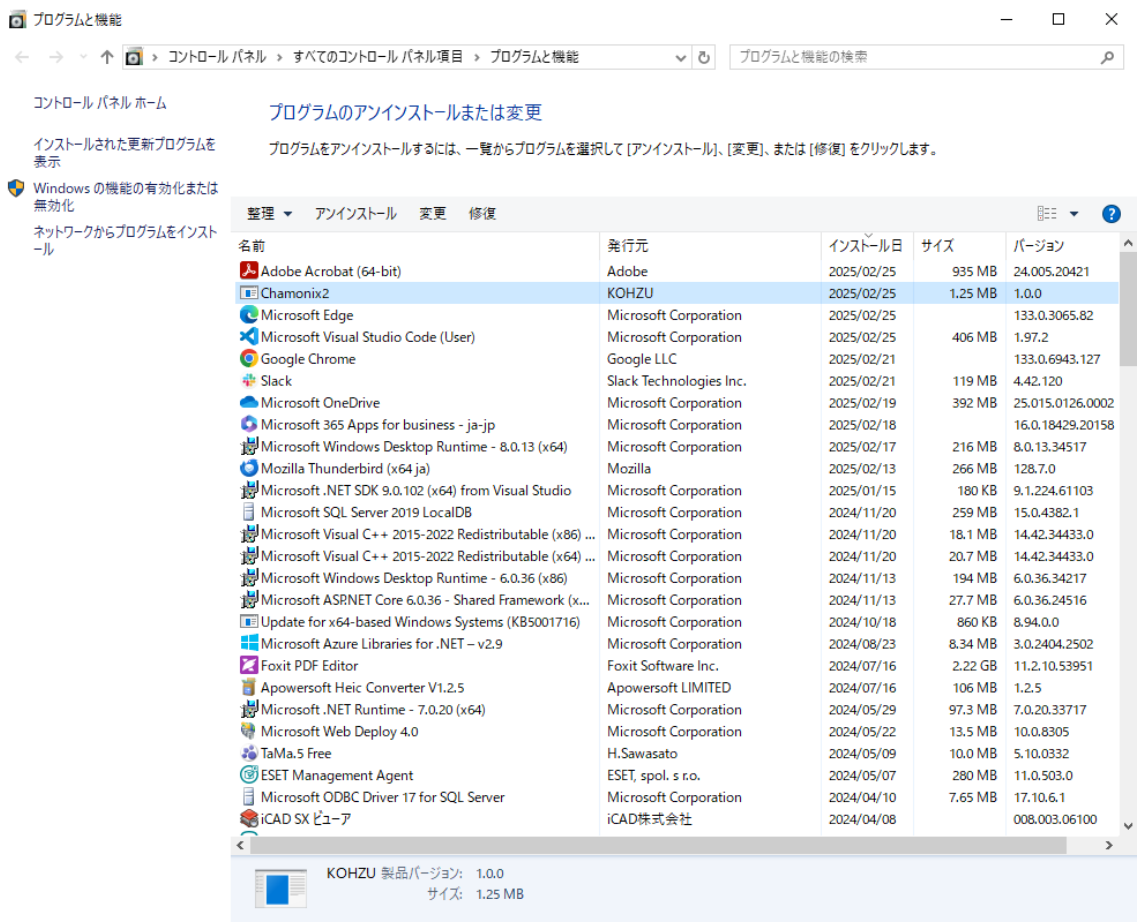
[4] It shows the screen of Microsoft Windows 10. This may vary depending on the operating system you are using.

3. Uninstall

3.1. Control Panel

Open "Programs" in the Control Panel, then click "Programs and Features".
Alternatively, click "Uninstall a program" directly from the Control Panel.
This will open the "Uninstall or change a program" window.

3.2. Uninstall a program



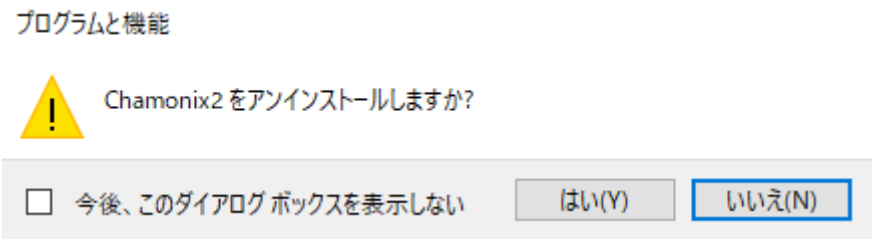
Select Chamonix2 from the list of programs that appears.

If you want to uninstall Chamonix2, click "Uninstall".

⇨ A message dialog will appear for confirmation.

If you want to repair Chamonix2, click "Repair".

3.3. Confirmation dialog



Click "Yes" in the confirmation dialog to proceed with uninstallation.

The uninstallation process will remove files created during installation, but will not delete files generated by the application afterward.

To delete those files, use File Explorer to manually remove them.

These files are stored in the "Chamonix" folder within "My Documents"..

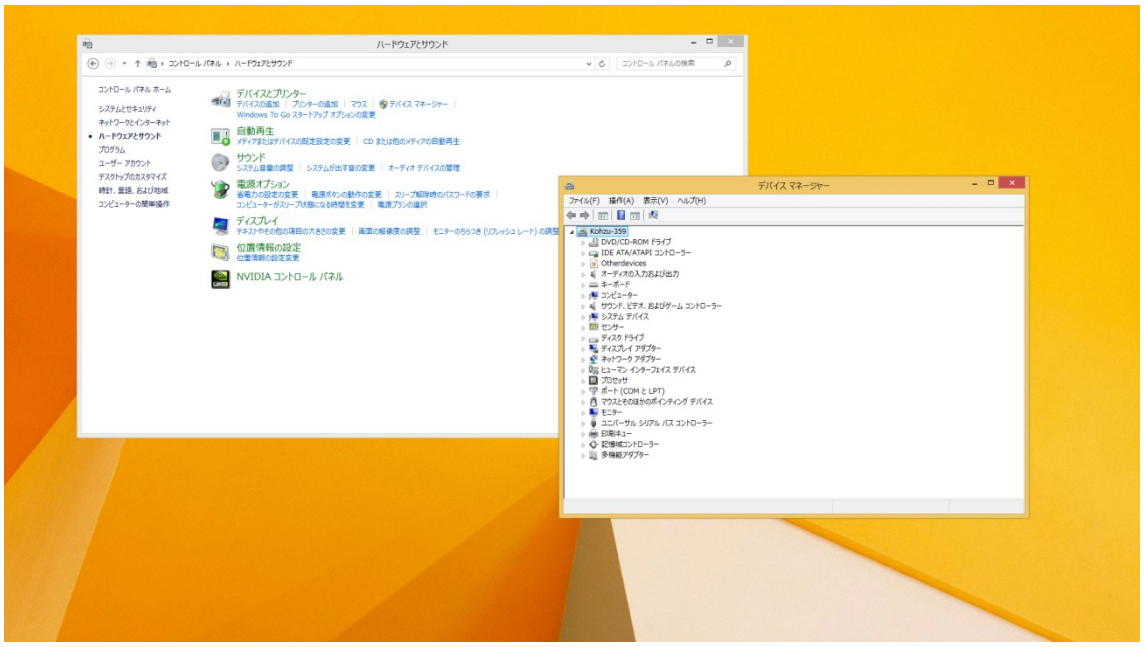
4. Wiring with the controller

4.1. RS-232C

ARIES and CRUX-D can be connected via RS-232C. CRUX-D can also be connected via USB (virtual COM port).[5]

Before starting, check which port the controller is connected to using Device Manager.

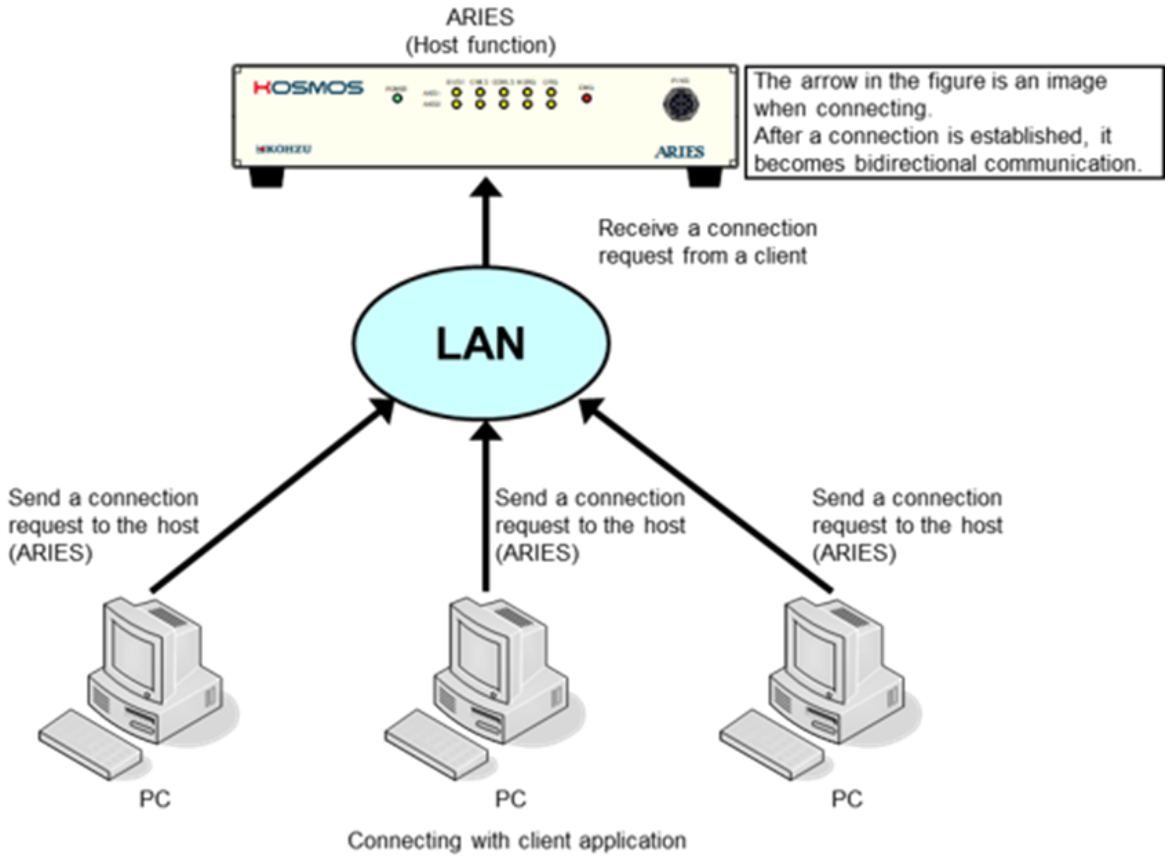
You can check it in the "Control Panel→ Hardware and Sound → Device Manager". Device Manager requires administrator privileges to start.



[5] The USB virtual COM port can only be used with CRUX-D.

4.2. TCP/IP

It is possible to connect to ARIES as a TCP/IP client. In order to connect to ARIES as a TCP/IP client, it is necessary to set the TCP/IP address, port number, etc. of ARIES via RS-232C communication in advance[6]. Here is an image of this connection.



[6] There are two methods: connecting via RS-232C communication and setting each parameter required for TCP/IP, or connecting and setting it using the settings shown on the next page in P2P.

The values set to ARIES at the time of shipment are as follows: For more information, please refer to the ARIES/LYNX User's Manual.

Function	Default setting	Command	
		Write	Read
Host/Client/Telnet setting	Host (Set value 0)	WHC	RHC
Set IP Address of ARIES	192.168.1.120	WIP	RIP
Set subnet mask	255.0.0.0	WSN	RSN
Set a port number*	12321	WPT	RPT
Client limit setting	No limit (Set value of client No.1 777.0.0.0)	WCL	RCL
Specify the host IP address	192.168.1.102	PIP	RPI
Set the default gateway	Not setting (Set value 999.0.0.0)	WGW	RGW
Set a password (Write only)	KOSMOS	WPS	-
Set a number of application connections	32	WAP	RAP

4.3. Connection with CRUX-D

4.3.1. CRUX-D Communication Settings

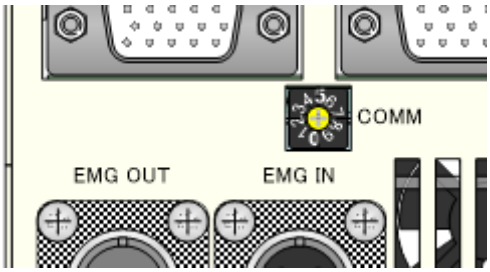
The CRUX-D can be set and changed using a rotary switch (COMM) on the rear panel. The default setting is 4 (normal command USB mode).

For more information, please refer to the CRUX-D User's Manual.

*For RS-232C communication, please set the settings other than speed (baud) as follows.

Parity	NON
Data length	8bit
Stop Bit	1

Configuring the CRUX-D Rotary Switch for Communication Settings



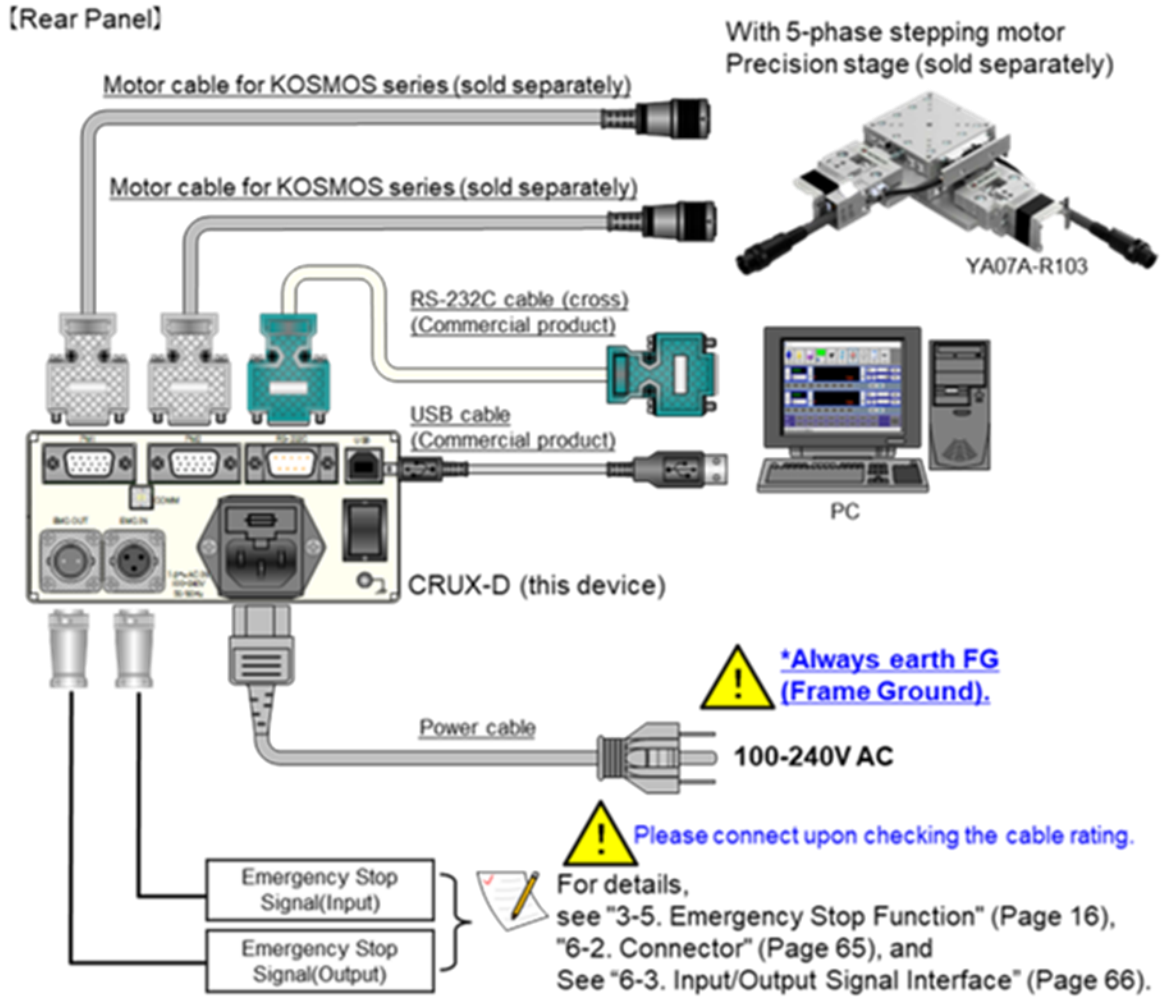
Rotary switch location for communication configuration of the CRUX-D

Communication mode	Communications settings		
	RS-232C speed [baud]	USB	
0	38400	USB	General command
1	57600		
2	19200		
3	9600		
4	115200		
5	38400	USB	Simple command
6	57600		
7	19200		
8	9600		
9	115200		

4.3.2. Connection with CRUX-D

> ⚠ When unplugging and unplugging the wires, be sure to turn off the power of the main unit.

Explains the connection and connection of the CRUX-D to external devices.



For more information, please refer to the CRUX-D User's Manual.

4.4. Connecting with ARIES

4.4.1. ARIES communication settings

⚠ When setting up the communication, be sure to turn off the power of the main unit.

ARIES can be set and changed using the rotary switch (COMM) on the rear panel. The default setting is mode 4 (RS-232C 115200baud).

For more information, see the ARIES/LYNX User's Manual.

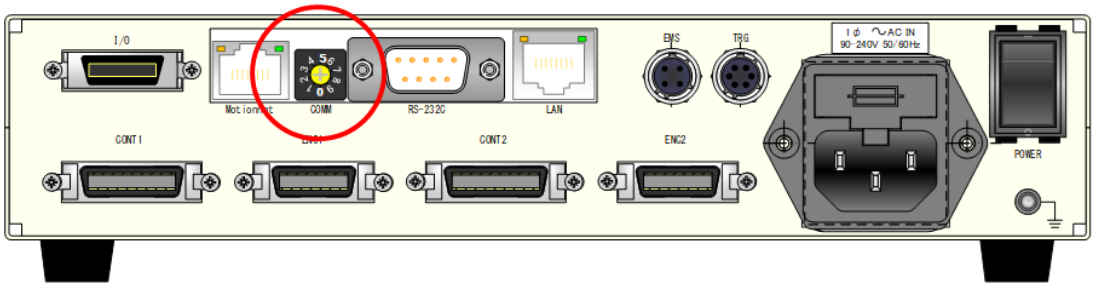
*For RS-232C communication, please set the settings other than speed (baud) as follows.

parity	NON
Data length	8bit
Stop Bit	1

Rotary switch location for ARIES communication configuration.

The rotary switches for communication settings are located in the following positions:

【Rear Panel】



Configuring the ARIES Rotary Switch for Communication Configuration

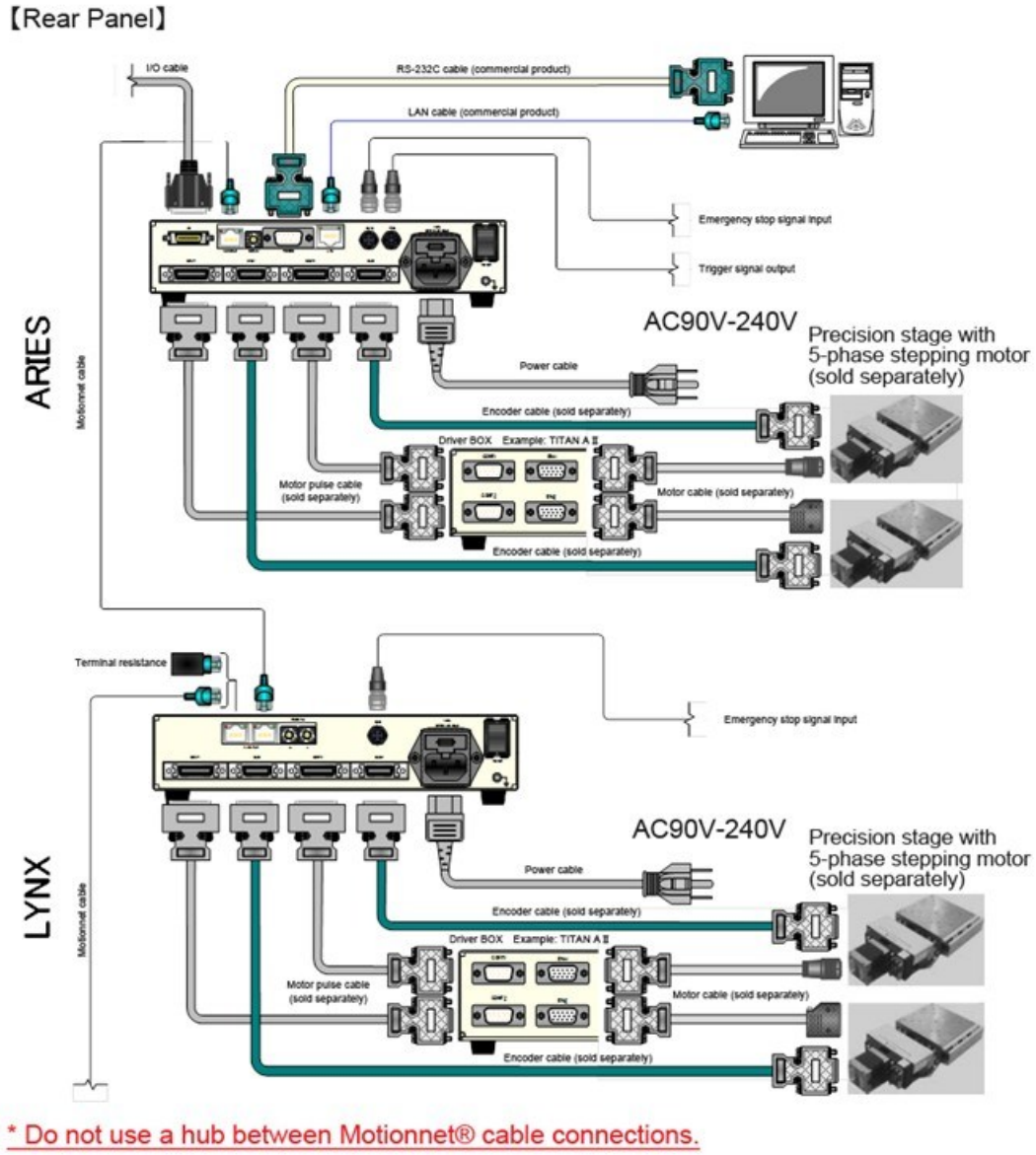
The settings are as shown in the table below. (Mode 6~9 not available)

Communication mode	Communications settings	
	RS-232C speed (baud)	LAN
0	9600	*
1	19200	*
2	38400	*
3	57600	*
4	115200	*
5	*	LAN
6	*	*
7	*	*
8	*	*
9	*	*

4.4.2. How to Terminate ARIES

When pulling out or inserting at wire connections, make sure the power of main body is OFF.

Connection/connecting wires between ARIES and external equipment are explained.

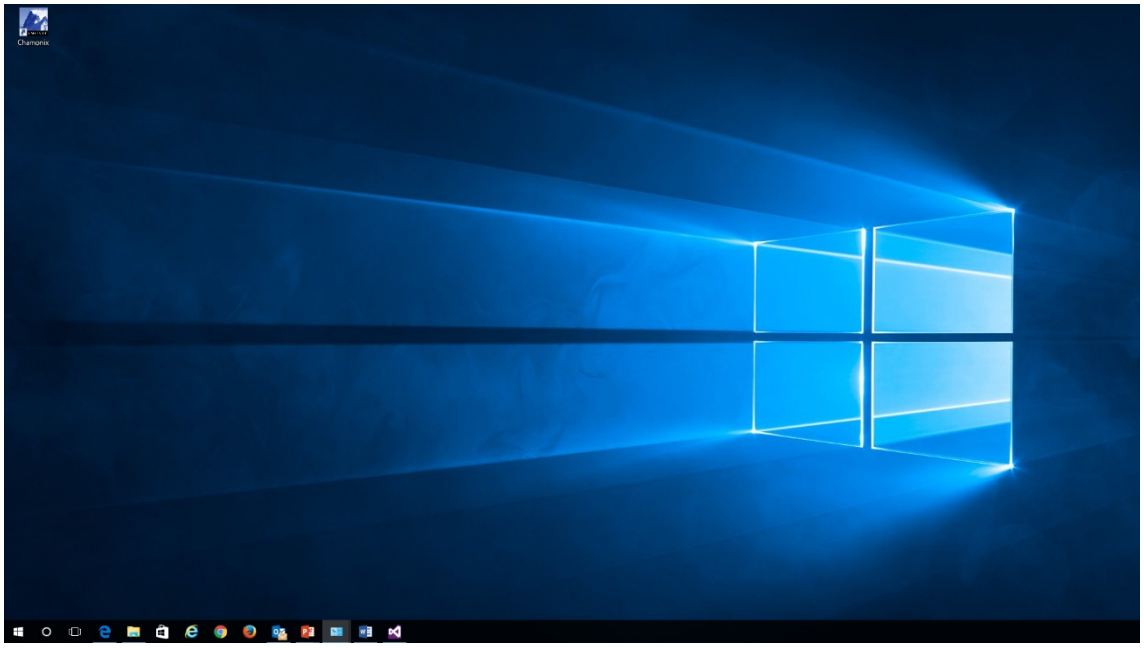


* Do not use a hub between Motionnet® cable connections.

For more information, see the ARIES/LYNX User's Manual.

5. Let's get started!

5.1. Launch from the desktop icon



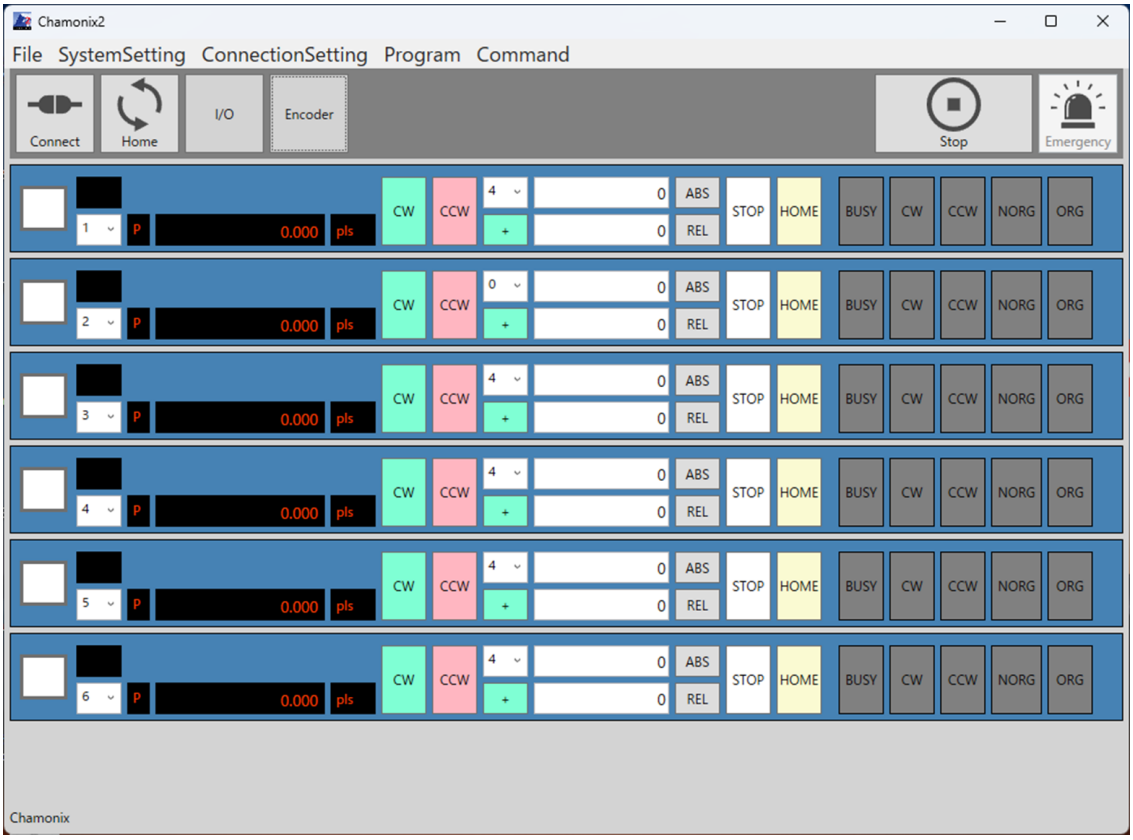
After a successful installation, the desktop will generate an icon for Chamonix2.

Click this icon to start with the communication settings at the time of the last end.

If it is the first time it starts, it will boot with the default communication settings.

By default, RS-232C is selected as the interface.
The COM port is numbered "COM1" and the baud rate is "115200baud".

5.2. First Boot



Here is an example of the screen of Chamonix 2 when it is first launched. The default communication interface is "RS-232C", and the RS-232C setting is set to "COM1" and the baud rate is "115200baud" for the COM port by default.

TCP/IP connects to the controller as a client, and the controller IP address is set to 192.168.1.120 and the port is set to 12321.

When Chamonix2 is launched, it does not automatically connect to the controller.

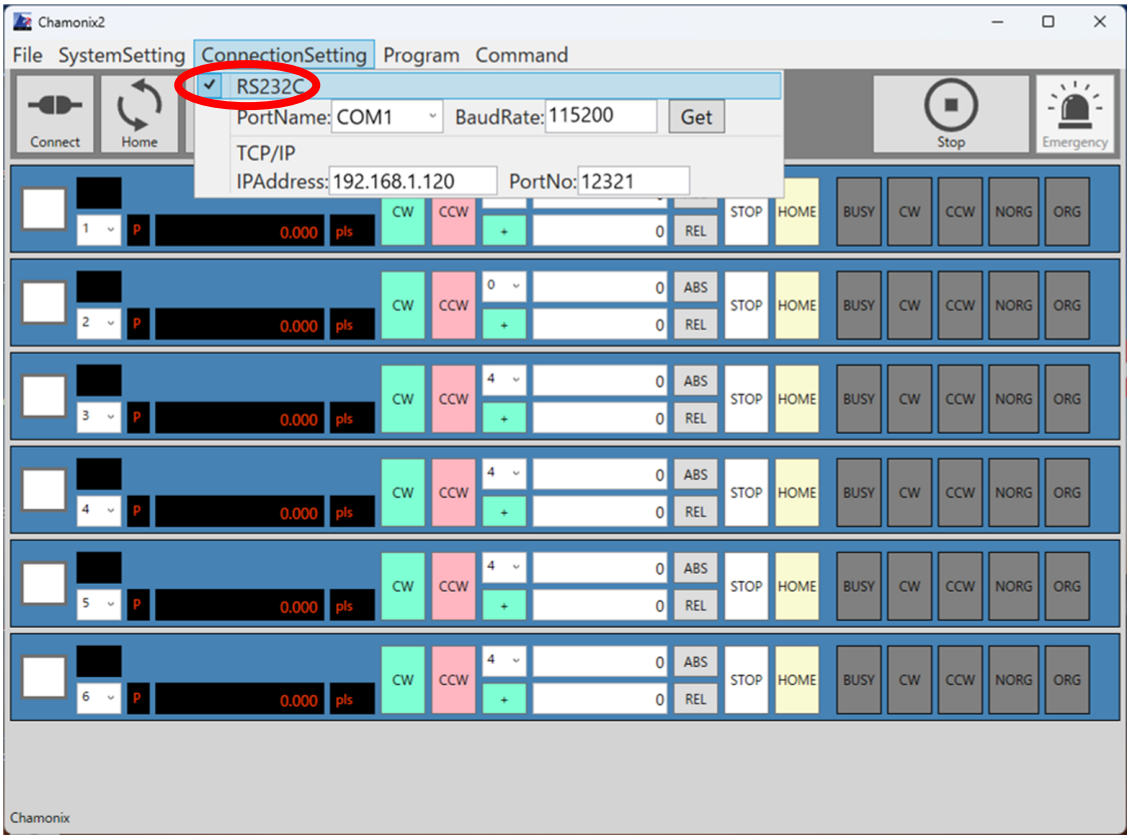
If you have used the application before, it will start with the settings saved from the previous session.

This value is stored in PreChamonixParameters.cpf and PreKOSMOSParameter.kpf in the Chamonix folder in My Documents.

6. Connect to the controller

6.1. Connecting to a controller via RS-232C

6.1.1. Select RS-232C

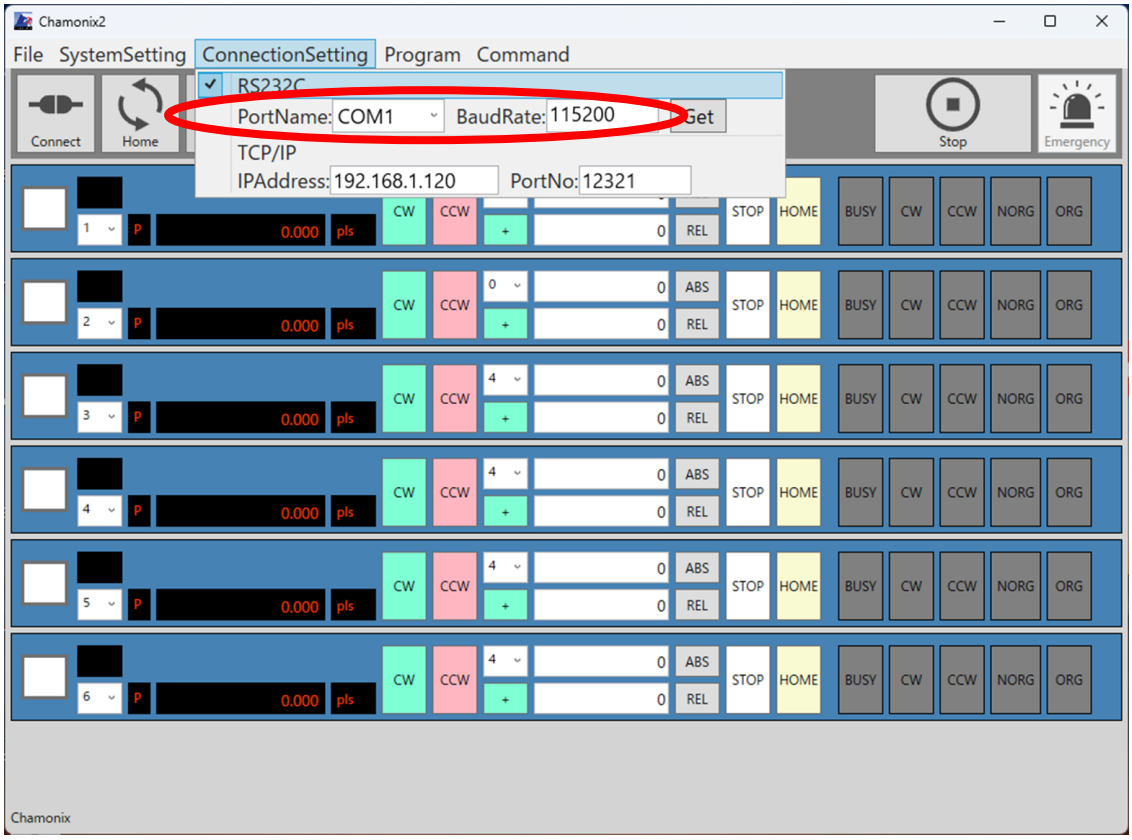


Click "Connection Settings" in the menu to open the communication interface settings.

Select "RS-232C" to use serial communication via RS-232C. A check mark will appear next to the selected interface, as shown in the figure.

If you are using a USB connection via CRUX-D, please select this RS-232C. Connect as a virtual comport (CDC class). For more information, please refer to the CRUX-D instruction manual.

6.1.2. COM Port Selection



Set the COM port (port name) of the communication interface configuration with the controller.

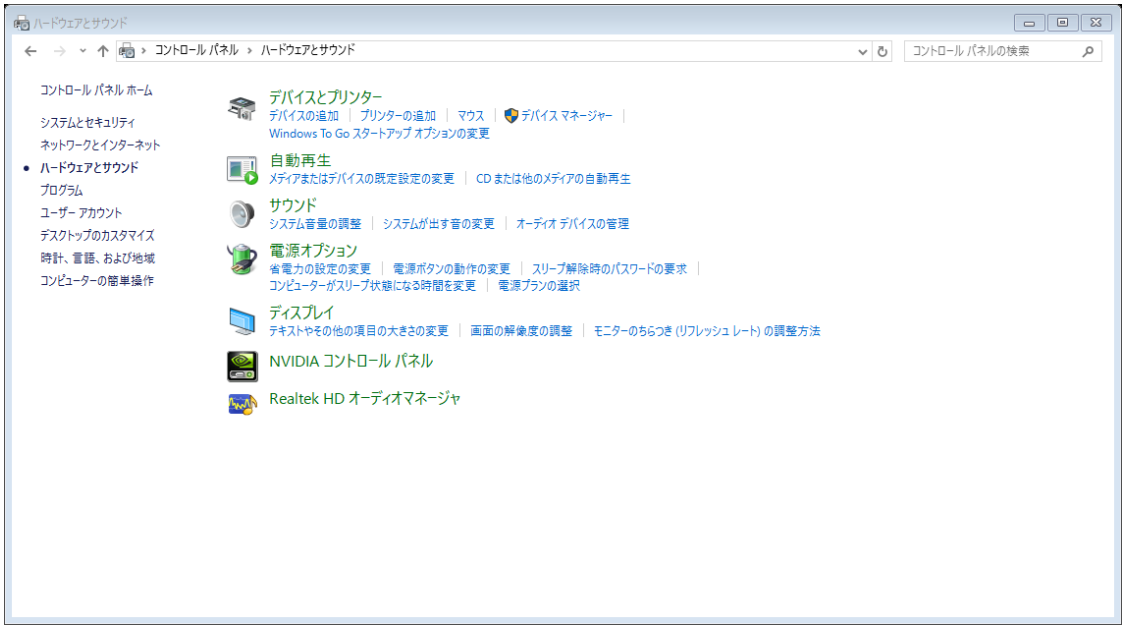
Our controllers have a baud rate of 115200 baud for RS-232C communication. For details, please refer to the instruction manual for each controller.

Pressing the "Get" button will also retrieve the COM port name with the connected device and add it to the port name combo box selection.

Left-click the "Connect" button to confirm the connection and initialize.

It keeps the settings when this application is closed and restores it on the next startup.

6.1.3. How to check the number of the COM port

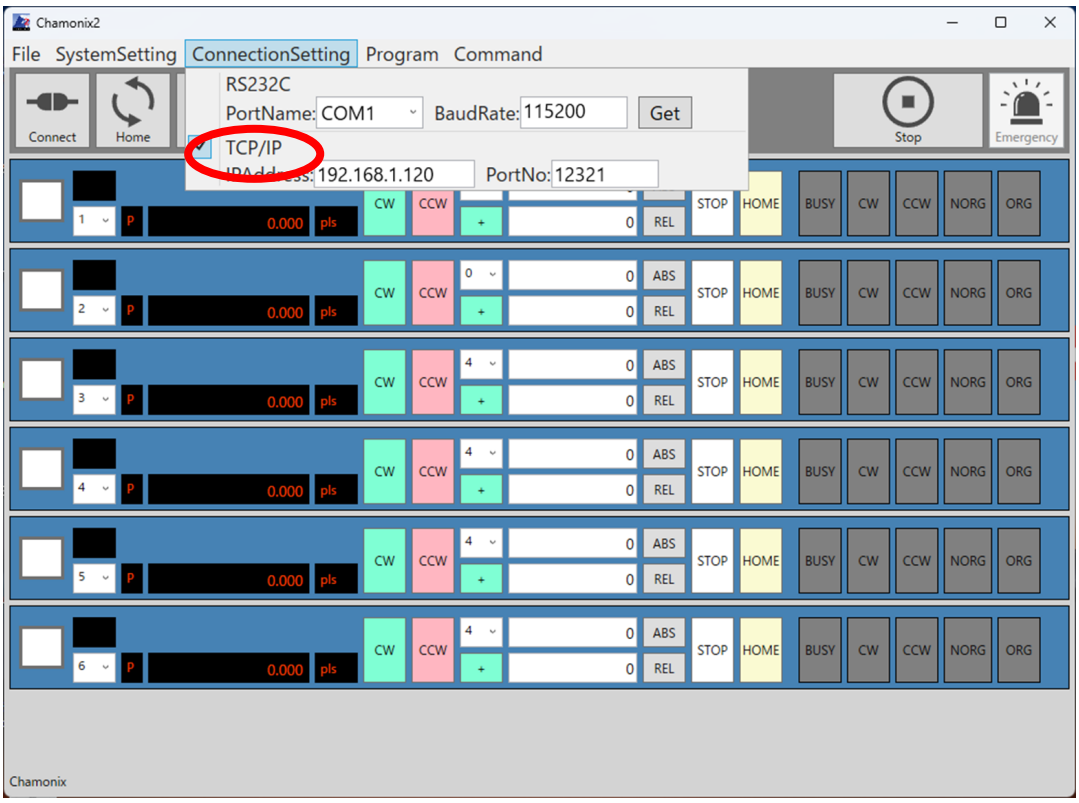


Check the port your controller is connected to in Device Manager.

You can check it in the "Control Panel→ Hardware and Sound → Device Manager". Device Manager requires administrator privileges to start.

6.2. TCP/IP connection

6.2.1. Select TCP/IP (ARIES only)



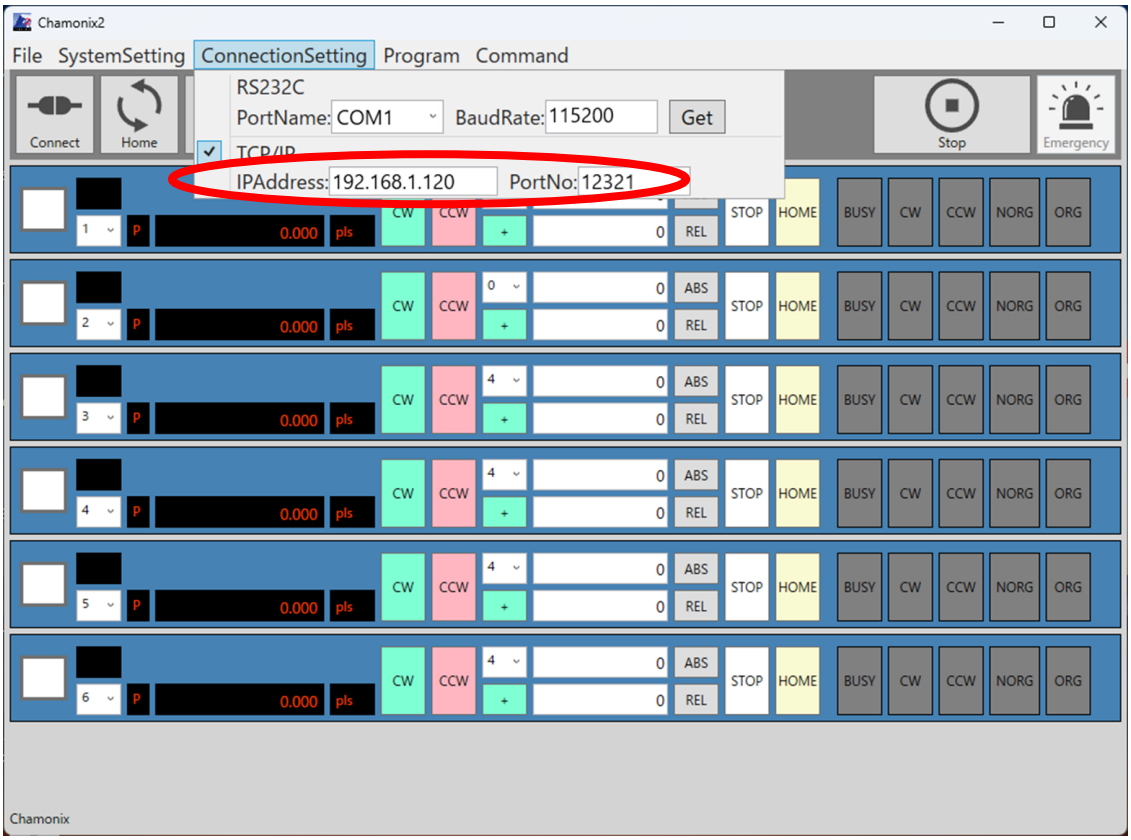
To choose to connect to the controller as a TCP/IP client, press TCP/IP in the communication interface settings with the controller. The selected communication interface is checked as shown in the figure.

ARIES is the only controller that can select TCP/IP as the communication interface. Don't choose it on other controllers.

For "Host/Client/Telnet Settings" in ARIES, please set the host settings. The host is selected when ARIES is shipped with us. To configure this ARIES, you need to enter and send a send command directly from the command window while connected to the controller. If you want to use the command window, see "14.Enter remote commands direc tly".

For more information on the send commands, please refer to the ARIES instruction manual.

6.2.2. Let's specify where to connect to Chamonix



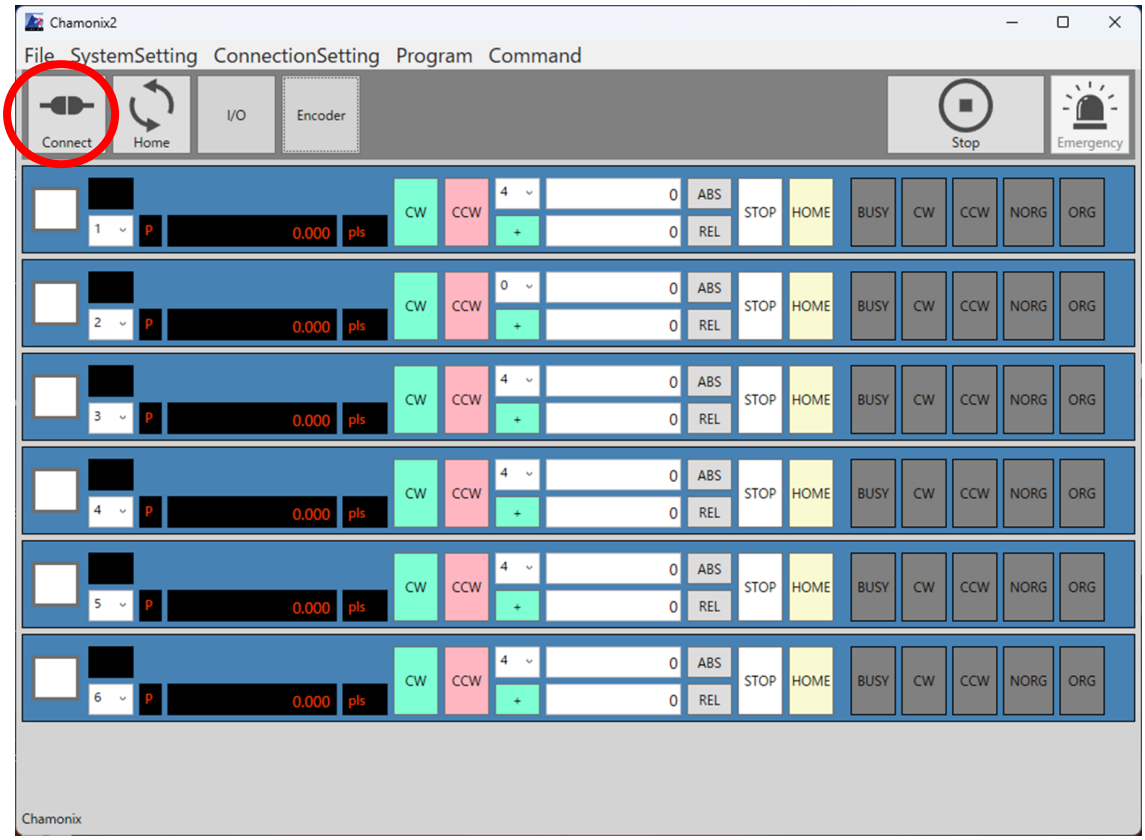
Enter the IP address and port number of the controller to which Chamonix2 will connect in the communication interface settings with the controller.

The factory default value of ARIES is "192.168.1.120" for the IP address and "12321" for the port number. If you need to change the ARIES settings in your environment, connect via P2P or RS-232C to change the ARIES parameters, and then restart Chamonix2 to set this setting.

6.2.3. Changing the IP address of ARIES

When you connect to ARIES, you can change the IP address, port number, and subnet mask of ARIES.
You can use the commands in the menu to issue commands corresponding to each item you want to set.
For commands on ARIES, see the ARIES Instruction Manual and for the command window, see "14.Enter remote commands direc tly".

6.3. Connecting to the controller



Press the "Connect" button to confirm and initialize the connection.

If the connection is successful, the connect button will turn green.

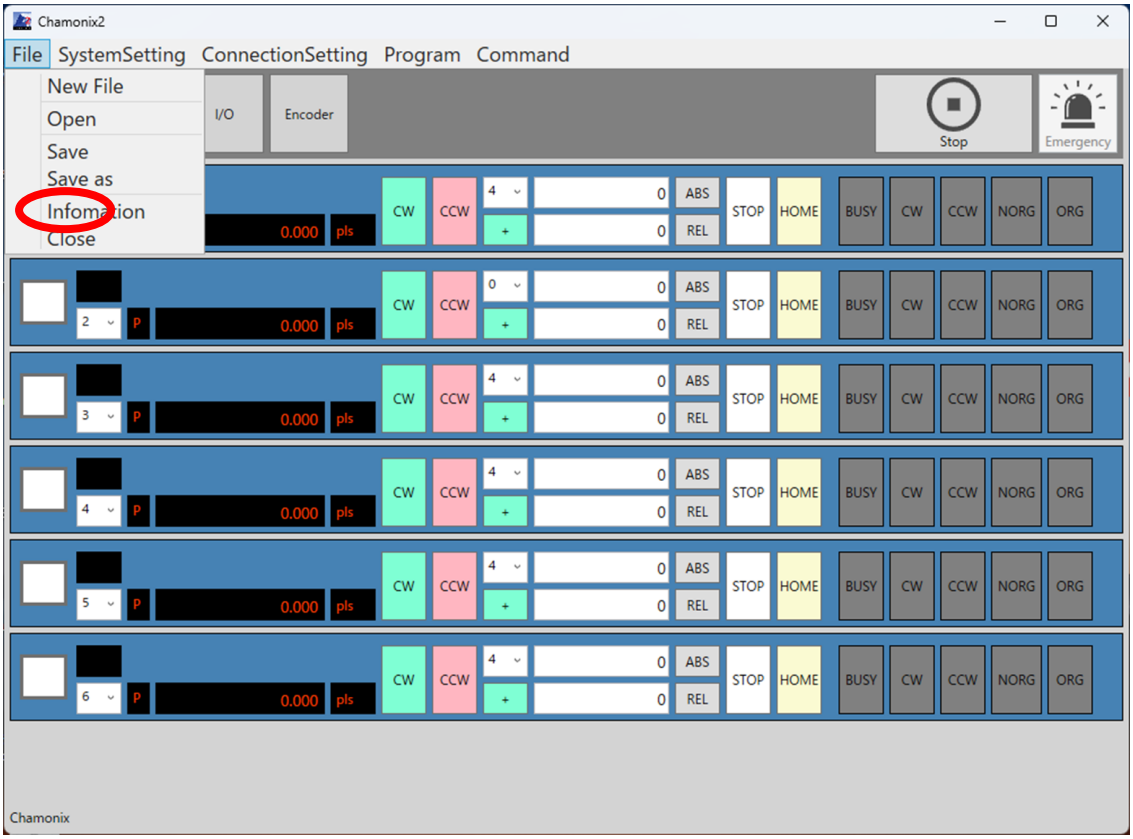
If the connection fails, you will receive an error message. Check your connection settings.

The drive shaft control screen displays up to 6 axes[7].

[7] Even if you are using the CRUX-D or do not have the slave controller LYNX connected to the ARIES, the 6-axis display will be displayed.

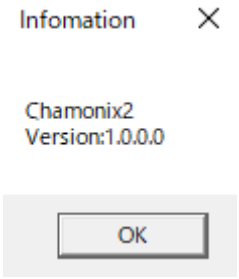
7. Let's check the version information

7.1. Check the version information for this app



To check the version[8]. information, click "File" in the menu, then select "Information".

The version details will be displayed, as shown in the figure below.



[8] Information such as version numbers may differ from actual information.

8. Returning to Origin

8.1. What is Returning to Origin?

"Returning to Origin" is an operation in which the stage moves near a specified sensor using a speed defined in the speed table, then continues moving at scan speed until the origin is detected and stops.

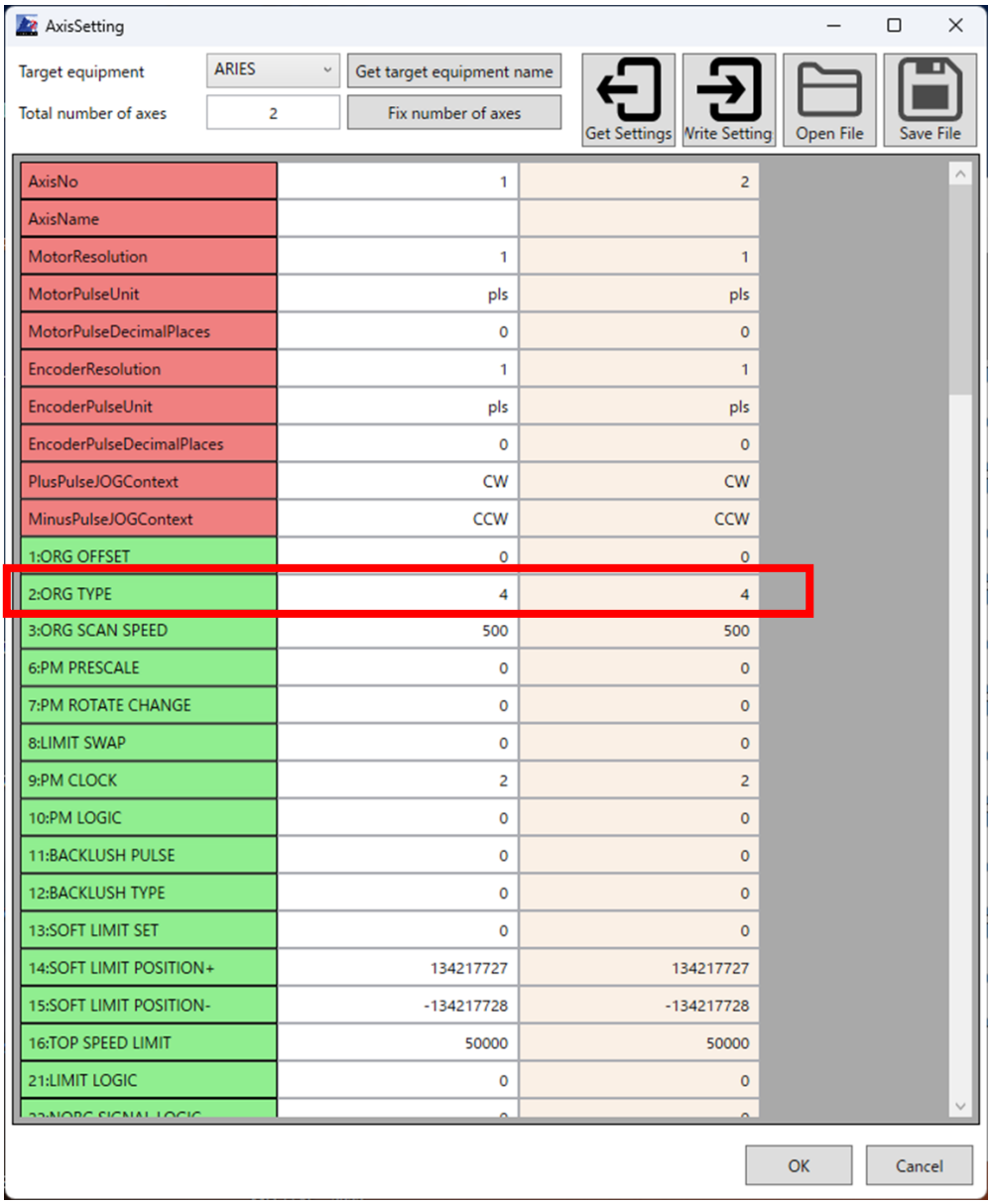
The types to return to origin available for controllers depends on individual controllers. See Types to Return to Origin for each operation manual.

All the strokes may drive when returning to origin.

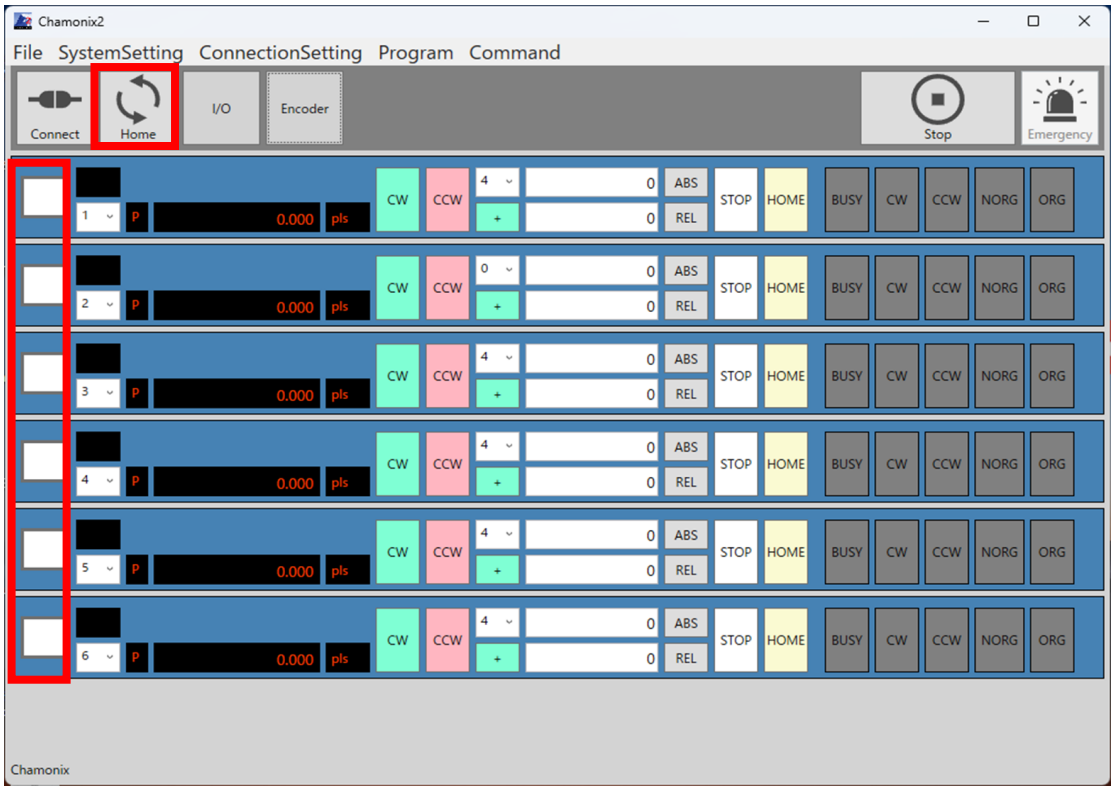
Pay careful attention to safety and perform the procedures.

8.2. Change of the return to origin method

The homing method for each axis can be set using the "2:ORG TYPE" property on the axis settings window.
Simply changing the fields here will not reflect the settings in the controller. After the change, you need to write the settings to the controller from the Write Settings button. For more information, see Changing Axis Settings.
For details on the homing method, please read the "Rehoming Method" in the controller's instruction manual.



8.3. Return to the origin of all axes



When you press "Return to Origin", the checked axis in the red frame will return to the original point.

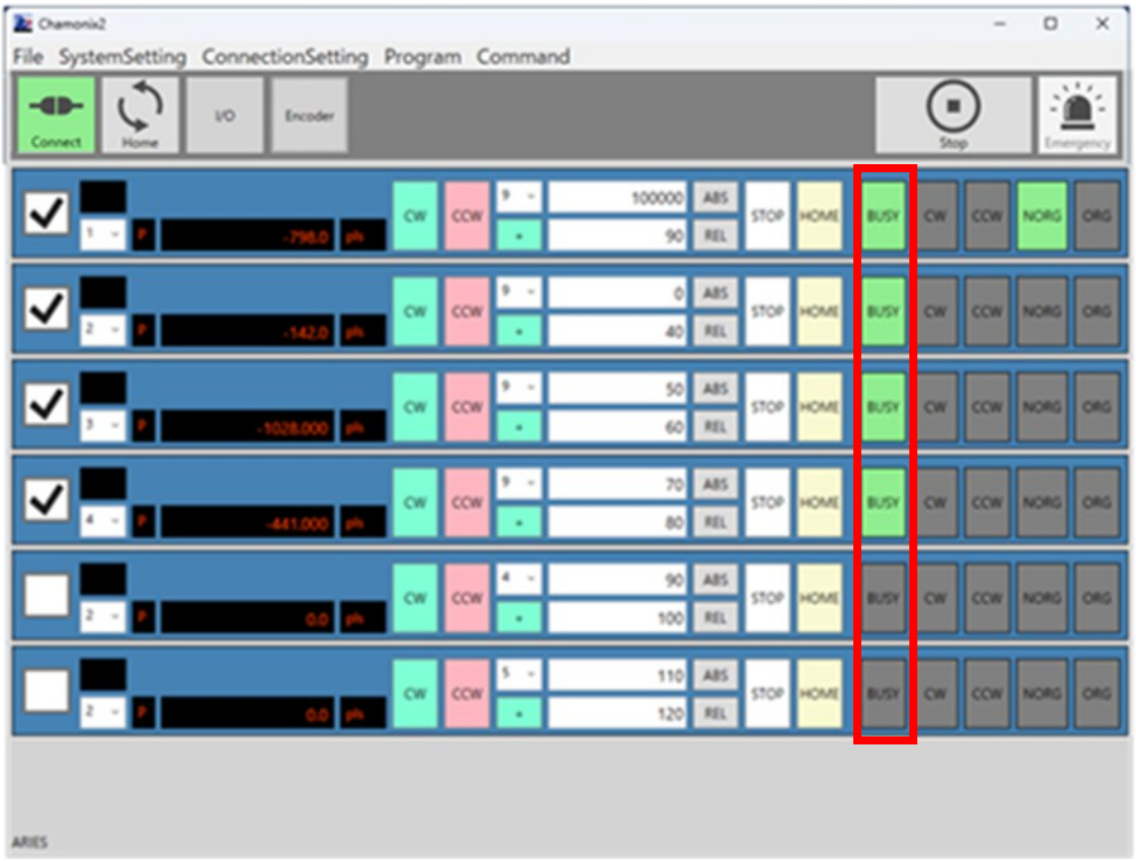
Each axis performs homing independently, without considering the movement of other axes.Please ensure that there is no interference between axes.

If there is a risk that the axis will interfere, use the single-axis homing described in the next section. For the homing pattern, refer to your controller's manual. The homing method follows the settings of the controller's system parameters. For information on how to set system parameters, see "12.Change axis settings".

If the

axes interfere with each other and a problem occurs due to the return of all axes, we cannot be held responsible.

8.4. Status During Return to the Origin



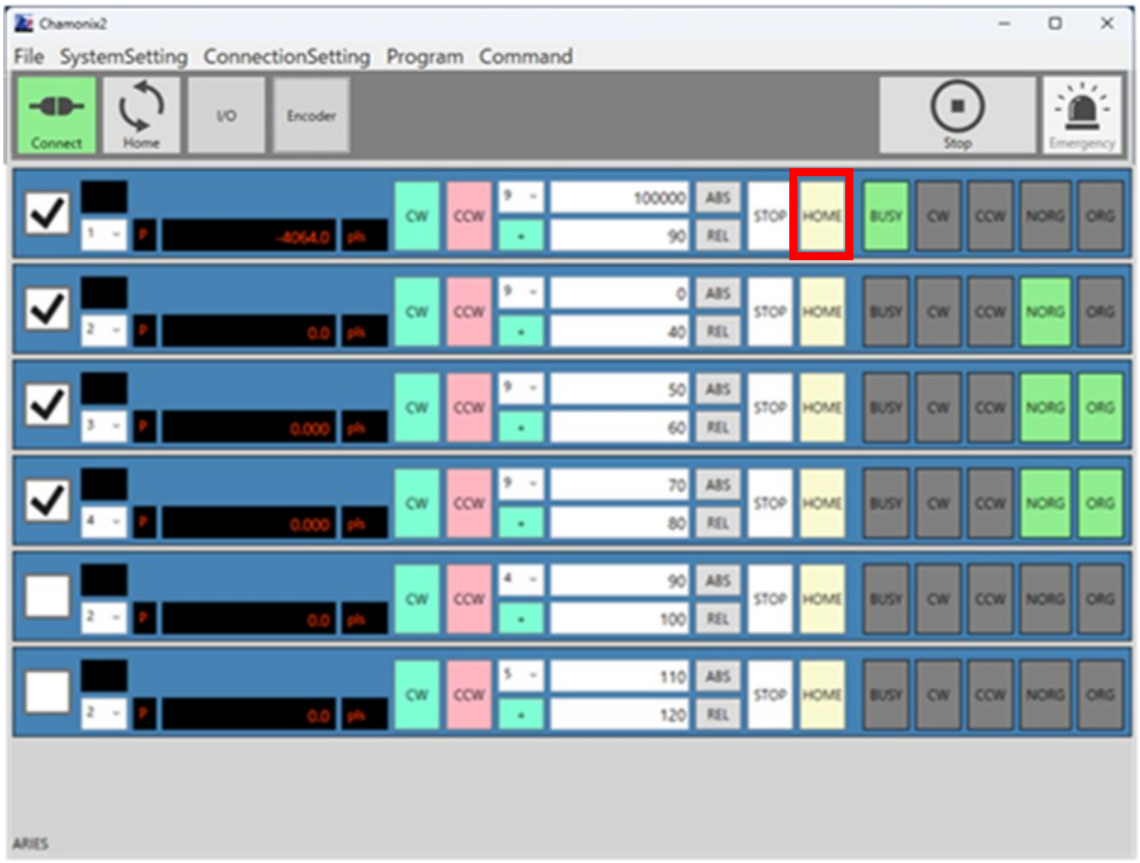
During return to the origin, the "BUSY" lamp on each axis will light up.

When the homing of each axis is completed, the "BUSY" lamp will turn off.

To stop the return to the origin of all axis, click the "Stop All Axis" button.

If you want to stop the return to the origin of a specific axis, click the "STOP" button on the target axis.

8.5. Returning to the origin of a single axis



To return to the origin, it is also possible to return to the origin of only a specific axis by clicking the "HOME" button on the individual axis.

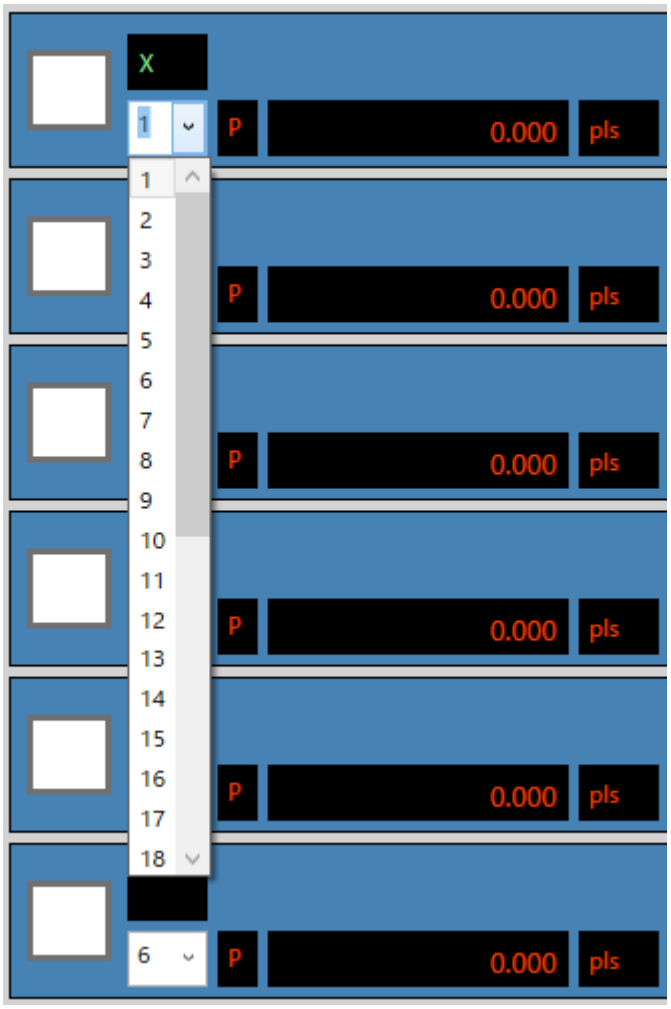
If there is a risk of interference between the axes, it is recommended to return to the origin one by one for each axis.

Press the "STOP" button on the target axis to stop.

By performing a full-axis return to origin. Even if the axes interfere with each other and a problem occurs,
We cannot be held responsible.

9. Let's move the stage

9.1. Selection of axes to control



You can use the combo box to select the axis to control.
It is also possible to change the axis displayed and controlled by the GUI during the drive.

The display can be controlled up to 6 axes, but up to 32 axes can be controlled.

In the case of the CRUX-D, it is possible to control up to 2 axes.
In the case of ARIES, up to 32 axes can be controlled by the addition of LYNX

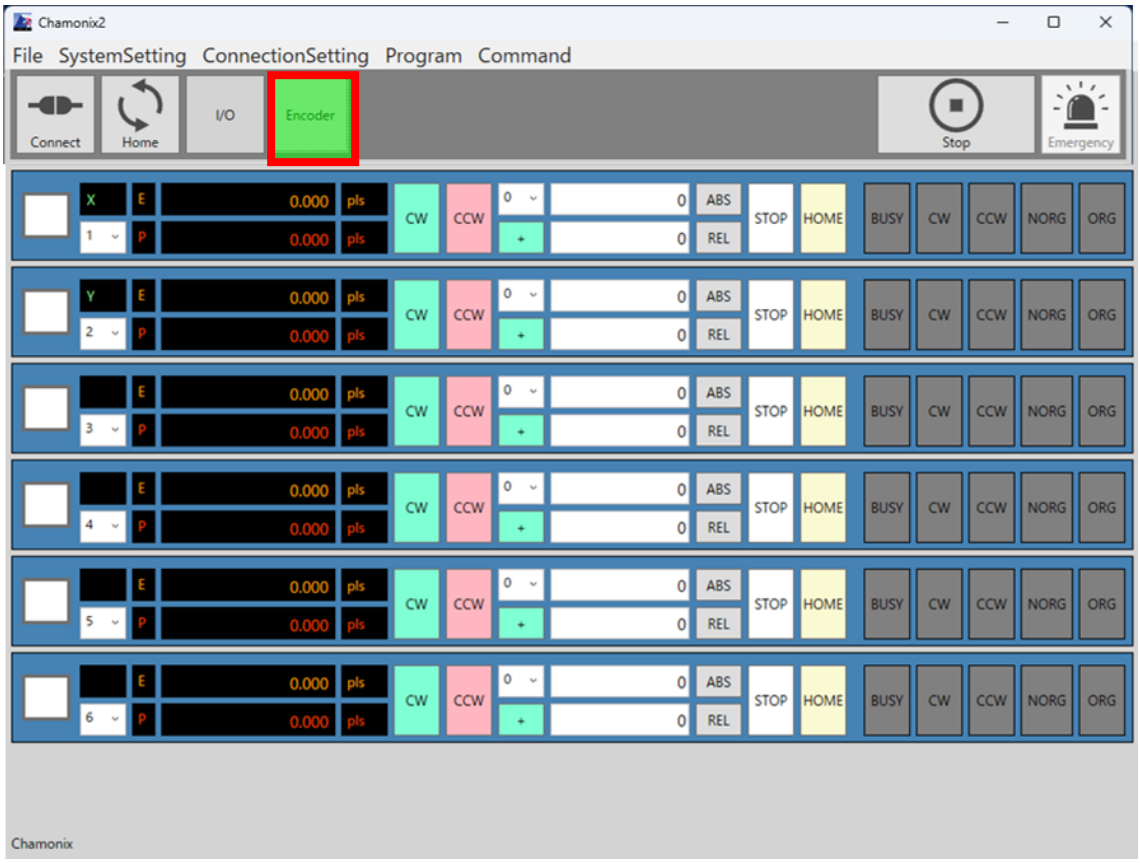
9.2. Set axis name, unit notation, and JOG button notation

You can change the axis name, unit notation, and JOG button notation.

You can change the changes from "Axis Name", "Motor Pulse Display Unit", "Encoder Pulse Display Unit", "Plus Pulse JOG Notation", and "Negative Pulse JOG Notation" in the Axis Settings window. For more information, see "12.Change axis settings" .

These names can be written in a language that can be typed in Windows. The character code is UTF-8.

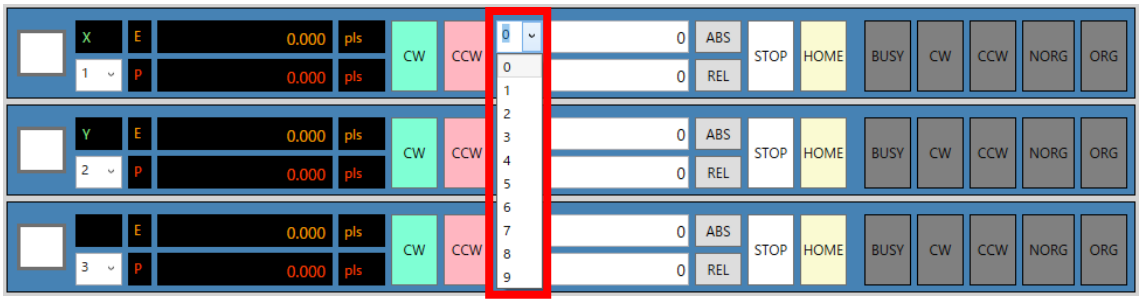
9.3. Toggle your current location



When you press the Encoder button, the button color changes to green and the current position of the encoder is displayed.

When you press the "Encoder" button again, the button color changes to gray and the current position of the encoder is hidden.

9.4. Selecting a speed table

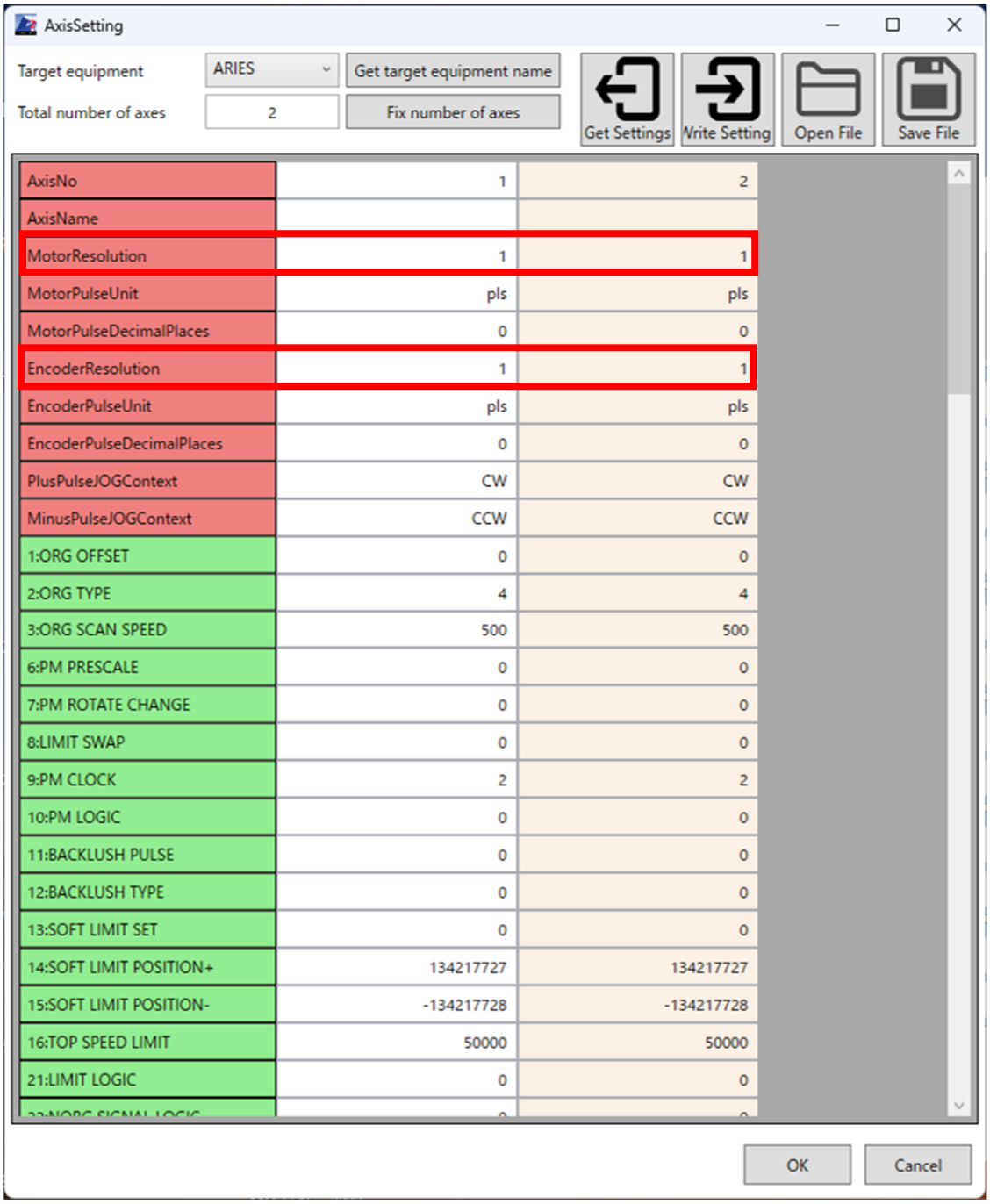


The speed table for each axis can be changed from the combo box.

To configure the speed table parameters, modify the axis settings. For information on how to change axis settings, see "12.Change axis settings".

Each parameter of the speed table depends on the model of the controller. For details, please refer to the instruction manual for each controller.

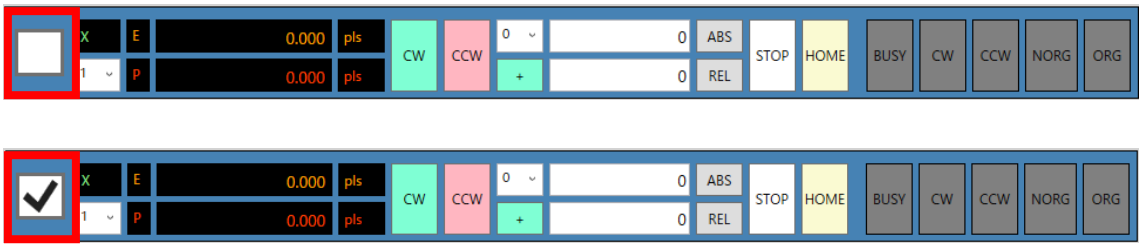
9.5. Set axis resolution



The axis resolution can be set in the axis settings window. Enter the value per pulse for the motor pulse resolution in "Motor Pulse Resolution" and the resolution of the encoder pulse in "Encoder Pulse Resolution". For more information, see "12.Change axis settings".
The value of the resolution you set for the display of the main window is reflected.

The default value is 1. If you have not completed the axis settings, such as on the first start, it is treated as the default value of 1.

9.6. Specifying the Operation Target



When the target axis is checked, the drive operation and status display are performed.

If the target axis is not checked, the drive operation of the target axis and the status of the axis will not be displayed.

9.7. Manual Movement

Press the CW button on each axis to move in the CW direction during that time.

Similarly, pressing the CCW button will move in the CCW direction while pressing.

10. Positioning

10.1. Configuring Positioning Using Absolute Position Management

Enter the absolute location of the destination in this text box.

If the axis settings have a conversion value for motor pulse resolution, enter the conversion value. By default, the setting is to enter a motor pulse.

10.2. Executing Positioning Using Absolute Position Management

Specify the absolute position and click the ABS button to perform positioning in Absolute Position Management.

Pressing the "STOP" button will stop only this axis.

The BUSY lamp will turn on while the motor is running.

10.3. Configuring Positioning Using Relative Position Management

Enter the relative amount of travel you want to move to in this text box.

You can change the sign by clicking the sign button.

If the axis settings have a conversion value for motor pulse resolution, enter the conversion value. By default, the setting is to enter a motor pulse.

10.4. Executing Positioning Using Relative Position Management

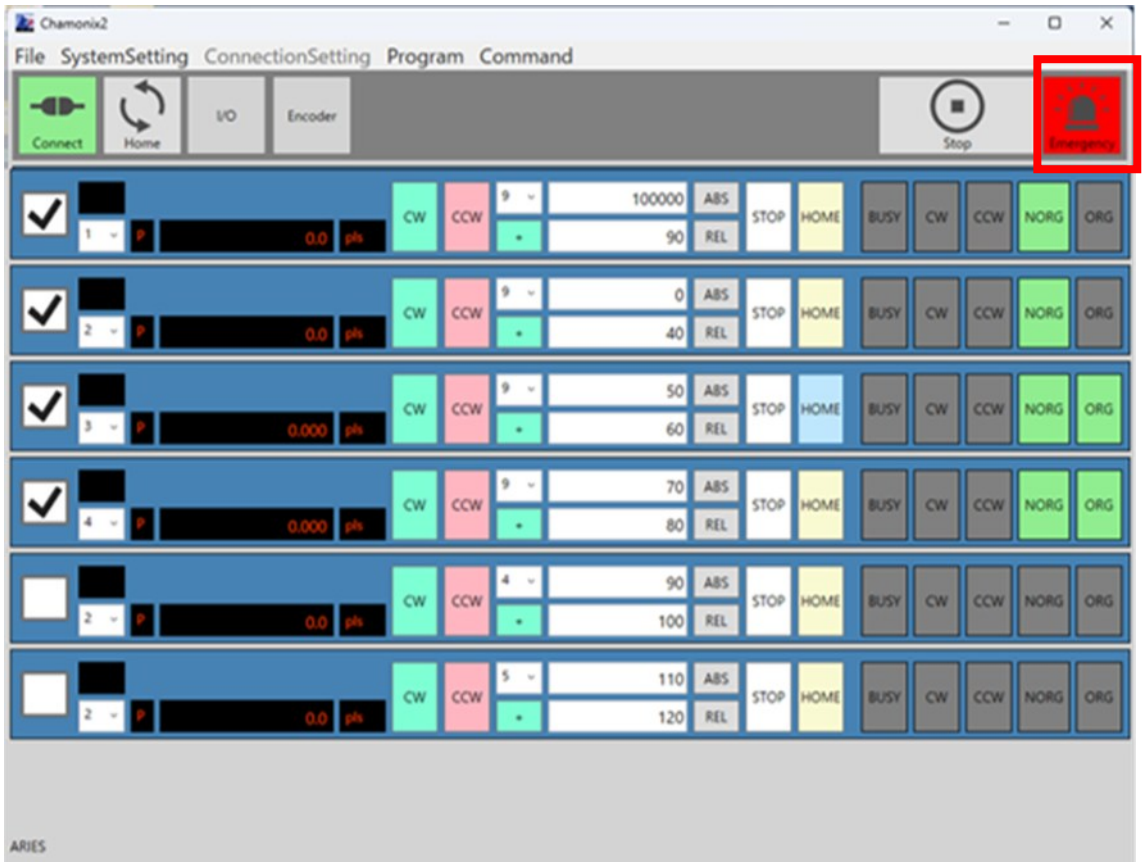
Specify a relative position and click the REL button to move it in Relative Position Management.

Pressing the "STOP" button will stop only this axis.

The BUSY lamp will light up while the axis is in motion.

11. Receive an emergency stop!

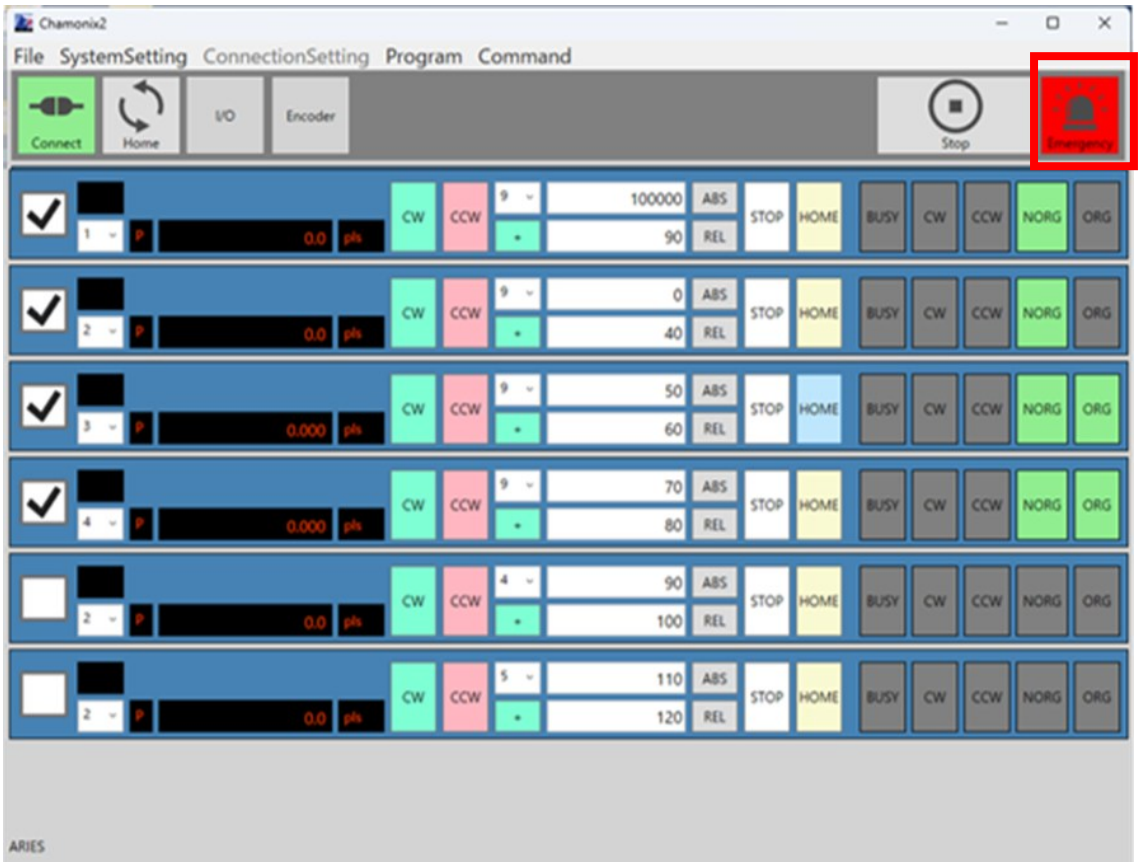
11.1. Receive an emergency stop signal



When an emergency stop signal is received, "Emergency Stop" lights up red.

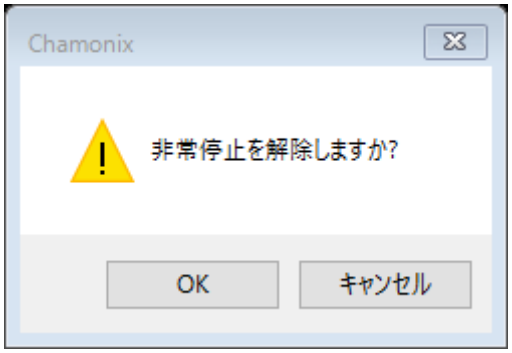
In this state, the controller does not generate any motor pulses. As a result, motor operation is disabled.

11.2. Return from Emergency Stop (ARIES)



If you are using ARIES, you can reset the emergency stop by restoring the emergency stop circuit, ensuring safety, and pressing the "Emergency Stop" button.

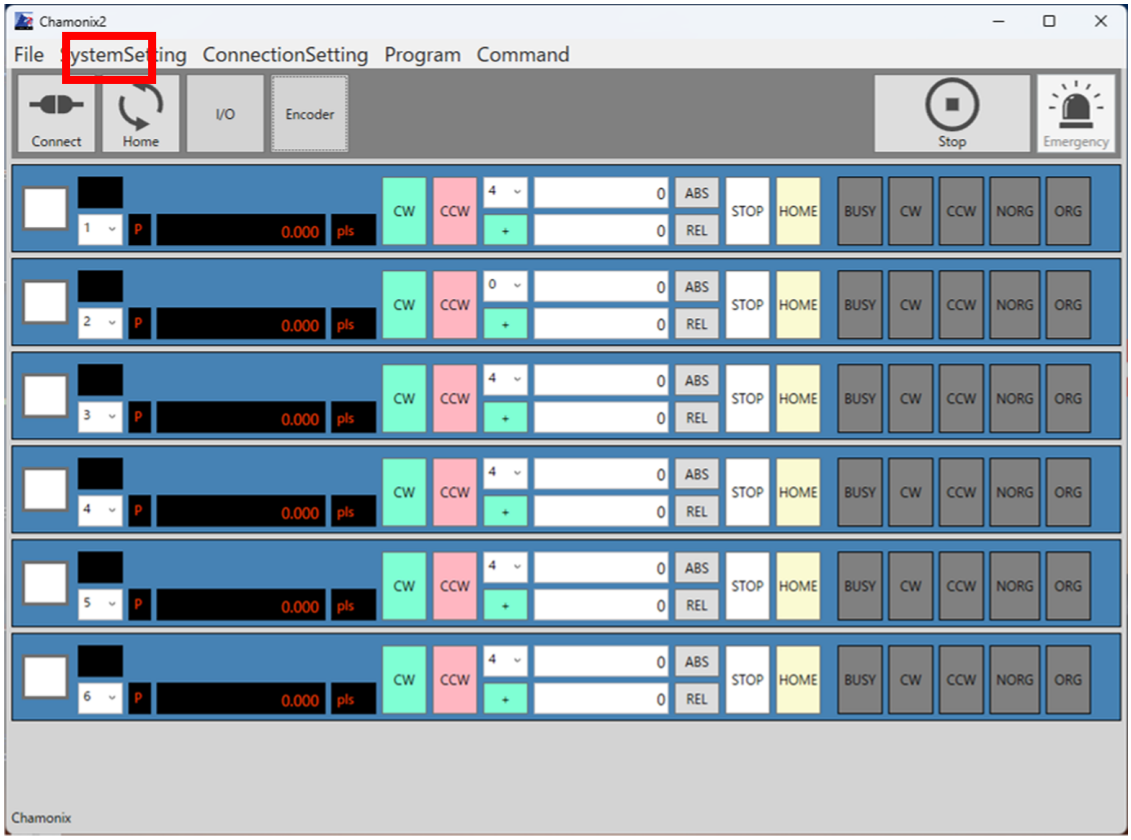
When you press "Emergency", the message shown in the figure below is displayed. Press "OK" to cancel the emergency stop. Press "Cancel" to continue the emergency stop.



When returning from an emergency stop, the cause of the emergency stop is removed,make sure you are safe enough.

12. Change axis settings

12.1. Launch Axis Settings

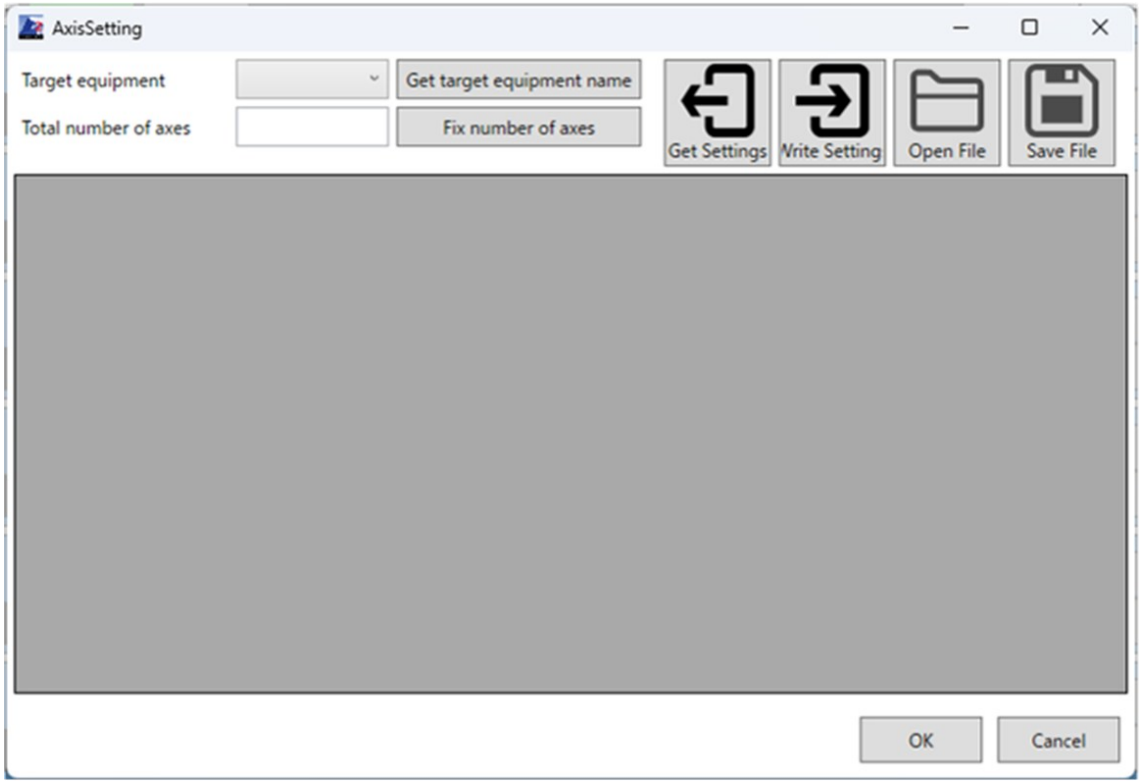


Click "Axis Settings" in the menu to launch the Axis Settings window. The previous axis settings are automatically restored at startup.When starting for the first time, it will start without axis settings.

The parameters that can be set are those that are used only by the application and those of the controller.

The parameters of the controller are system parameters and speed table. These parameters are designed to maintain compatibility between controllers as much as possible[9].

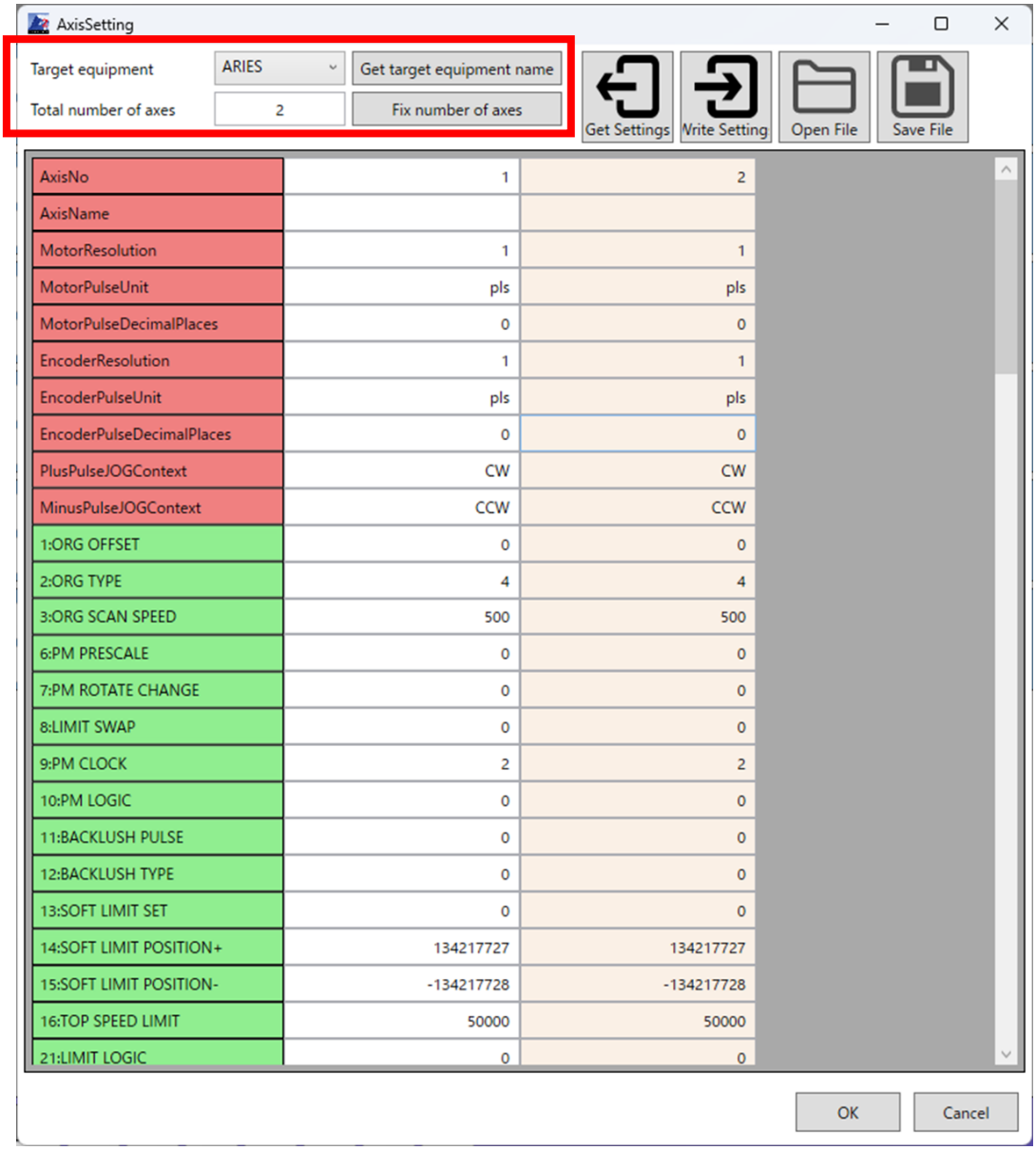
[9]This does not mean that we guarantee complete compatibility across different models.



When you start the axis settings window for the first time, there are no items in the table as shown in the figure above.

Select ARIES or CRUX-D for the target device, enter the total number of axes, and click the "Determine Number of Axes" button to generate a table based on the parameters of the target equipment at the time of shipment settings.

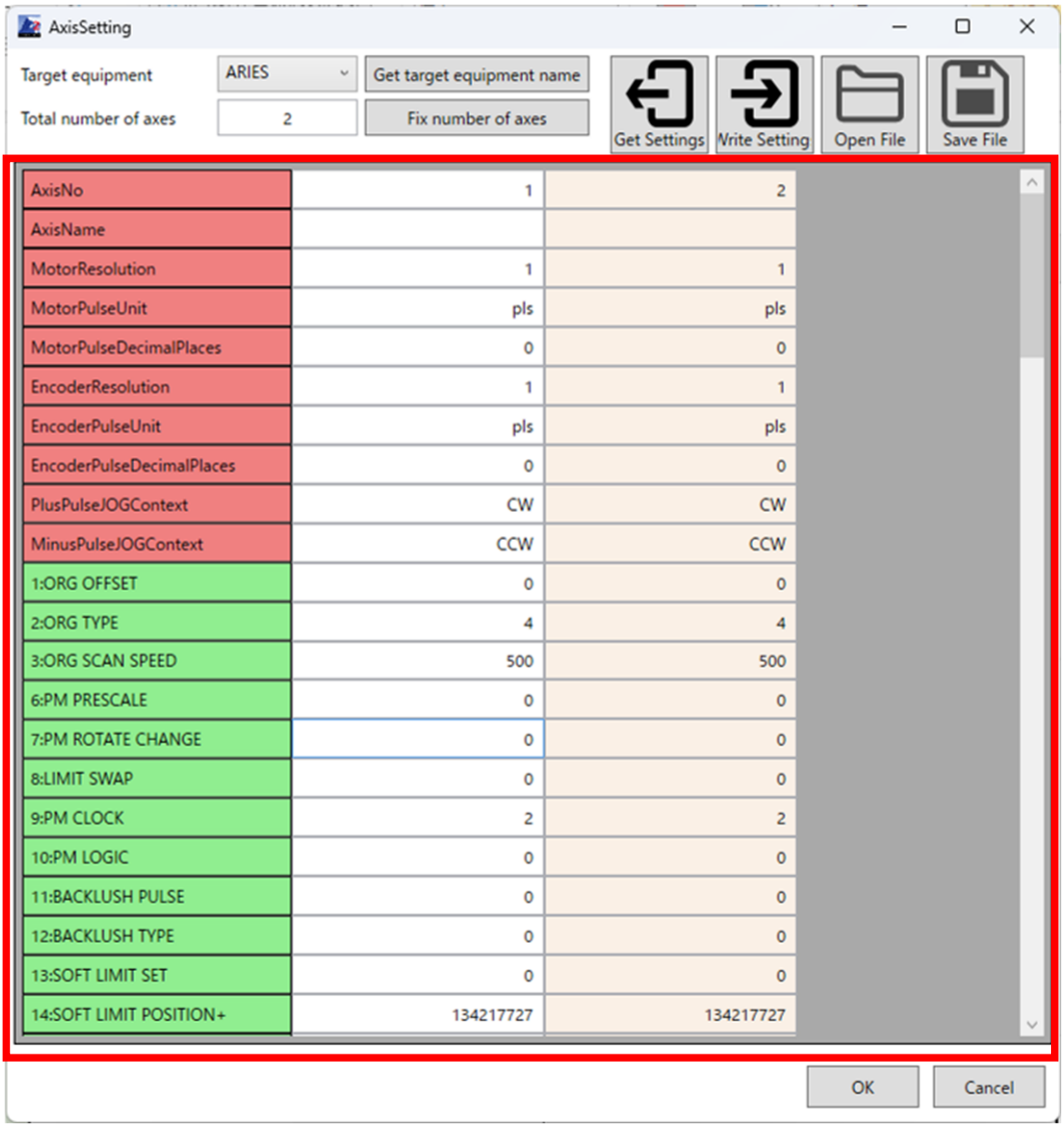
12.2. Initialize Axis Settings



The figure above shows the screen after selecting ARIES as the target device and setting the total number of axes to 2 using the "Fix number of axis" button.

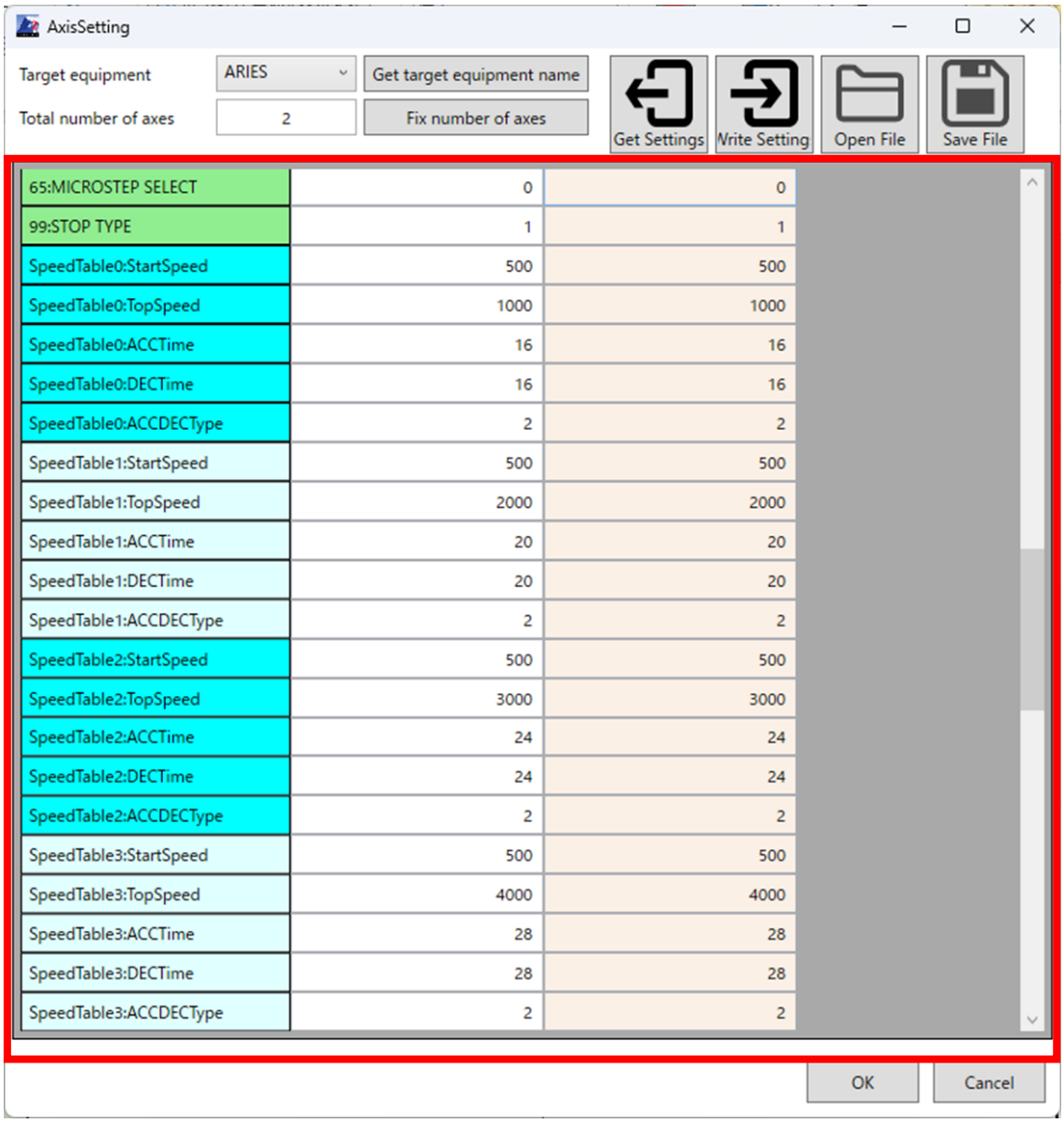
To initialize the settings, click the "Fix number of axis" button.

12.3. Set parameters



You can change the Axis Settings by entering the values in the table.

Changing the table value alone does not write to the controller. See "12.4 Writing Parameters to Connected Devices in the next section.



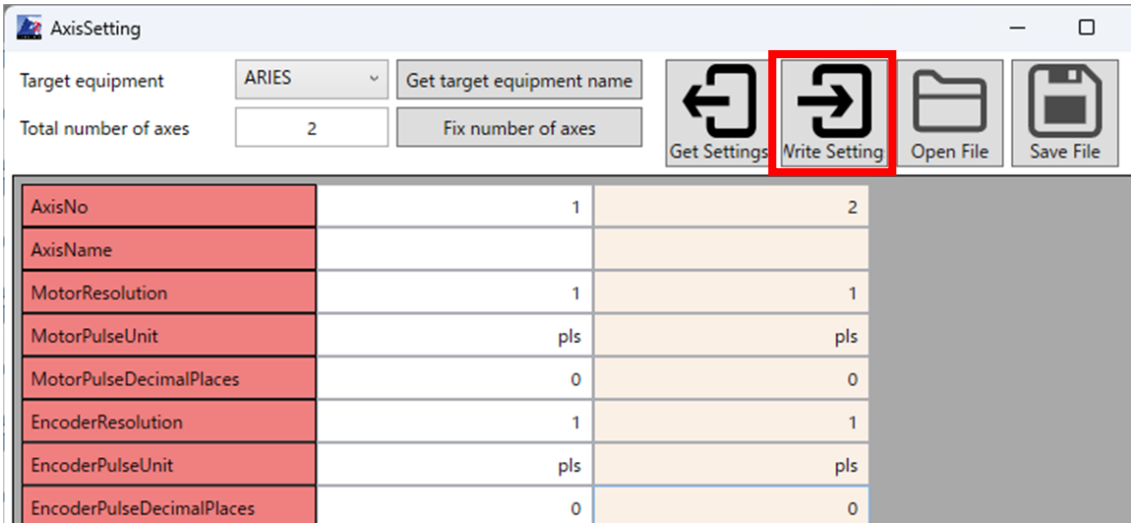
The red part of the displayed line name is the parameter that is used only by the application.

The green part of the displayed line name is the system parameter among the controller parameters.

The blue or light blue part of the displayed line name is the speed table in the controller's parameters.

For controller parameters, refer to the respective device's instruction manual.

12.4. Writing parameters to connected devices



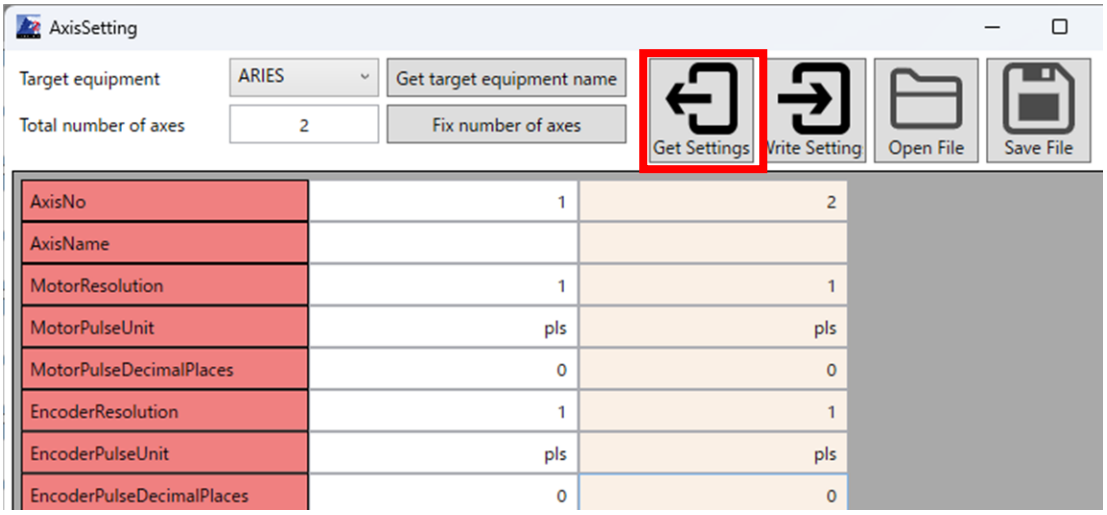
When you press the "Write Settings" button, it will be reflected on the controller all at once.

To perform "Write Settings", click the "Connect" button on the main screen and it must be connected to the device.

If the target device is different from the device that is actually connected, an error message is displayed to stop the write.

Also, if you write to an unconnected axis, the write may fail.

12.5. Importing parameters from connected devices

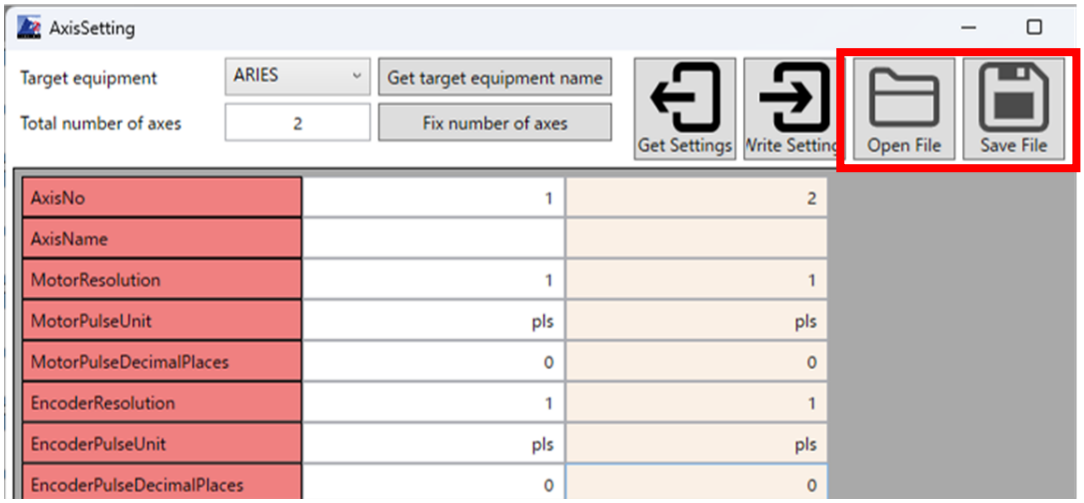


Press the "Get Settings" button to load the controller parameters in batches.

To perform "Import Settings", click the "Connect" button on the main screen and it must be connected to the device.

The target device and the total number of axes are changed to the content obtained from the connected equipment. In terms of the total number of axes, the total number of devices for RAX commands in ARIES and 2 for CRUX-D.

12.6. Saving and Reading Axis Settings to a File



Click the "Save File" button to save all the parameters of the axis settings to a file.

Saved files can be imported by clicking the "Open File" button. The file format is ".kpf" file, ".xls" file.

".xls" files can only be saved if the target device is ARIES.

12.7. Axis Settings Properties

A brief description of the parameters used in the application only for axis setting parameters.

For controller parameters, refer to the respective device's instruction manual.

• Axis number: The number of the control axis specified on the main screen. Duplicates are prohibited.

- Axis Name: The name of the axis to be displayed on the main screen.

・Motor pulse resolution: This is the amount of travel per pulse of the motor pulse.

・Motor Pulse Display Unit: This is the unit notation of the current position of the motor pulse displayed on the main screen.

・Motor pulse number of decimal places:

This is the number of decimal places displayed at the current position of the motor pulse displayed on the main screen.

- Encoder pulse resolution: This is the amount of travel per encoder pulse.

・Encoder pulse display unit: This is the unit notation of the current position of the encoder pulse displayed on the main screen.

- Encoder pulse number of decimal places:

This is the number of decimal places displayed at the current position of the encoder pulse displayed on the main screen.

・Plus Pulse JOG notation: The initial display displayed on the main screen is the notation of the CW button.

・Negative Pulse JOG Notation: The initial display displayed on the main screen is the notation of the CCW button.

12.8. Changing the speed table

SpeedTable0:StartSpeed	500	500
SpeedTable0:TopSpeed	1000	1000
SpeedTable0:ACCTime	16	16
SpeedTable0:DECTime	16	16
SpeedTable0:ACCDECType	2	2

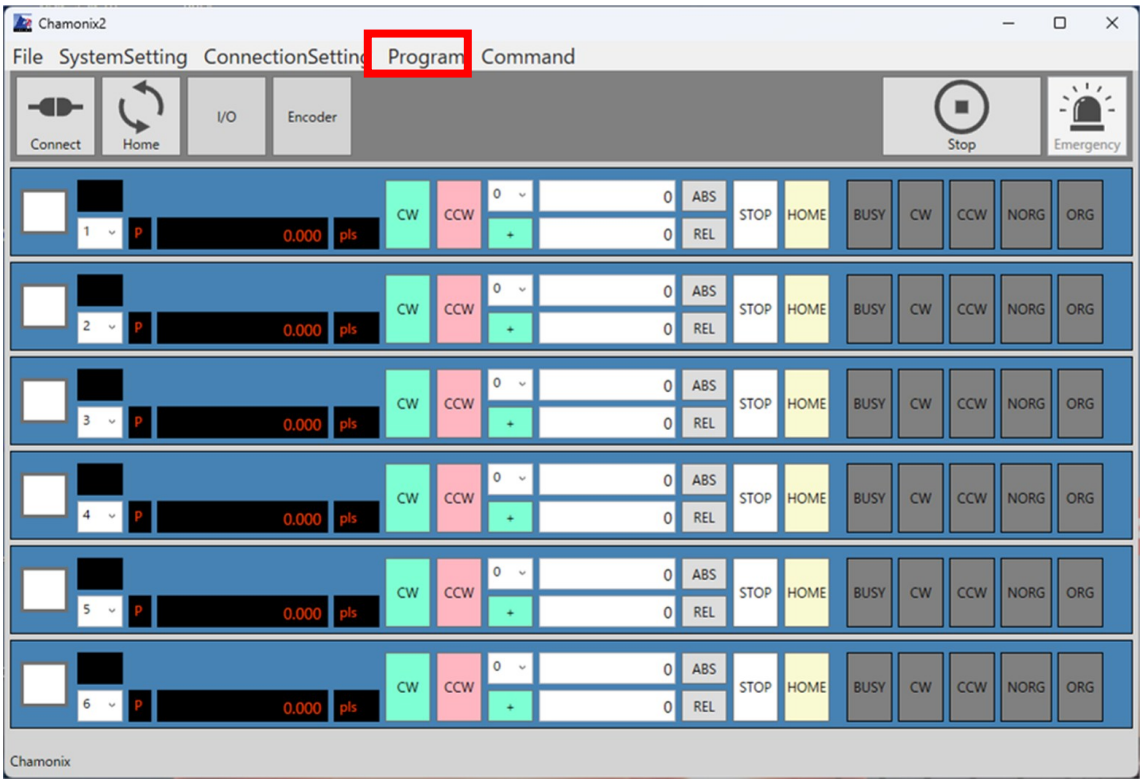
Learn how to change the speed table. Scroll down the axis settings to display the parameters of the speed table.

ACCDECTime means acceleration and deceleration pattern, ACCTime means acceleration time (in 10msec units), DECTime means deceleration time (in 10msec units), StartSpeed means start speed (pls), and TopSpeed means maximum speed (pps).

For CRUX-D, DECTime is not used. AccTime is used as the acceleration and deceleration time (in 10 msec increments) for both acceleration and deceleration times.

13. Use the program

13.1. Launching the Program Window

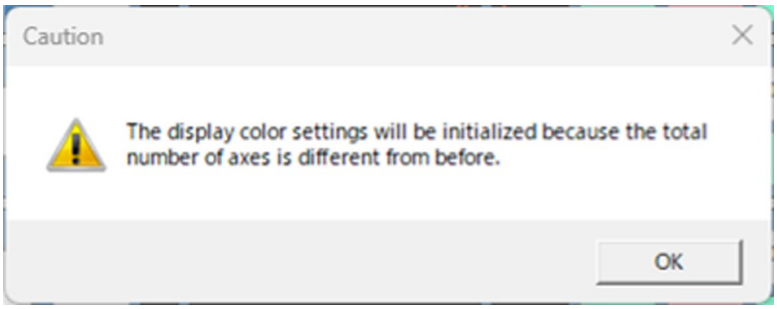


Click the "Program" button to launch the program window.

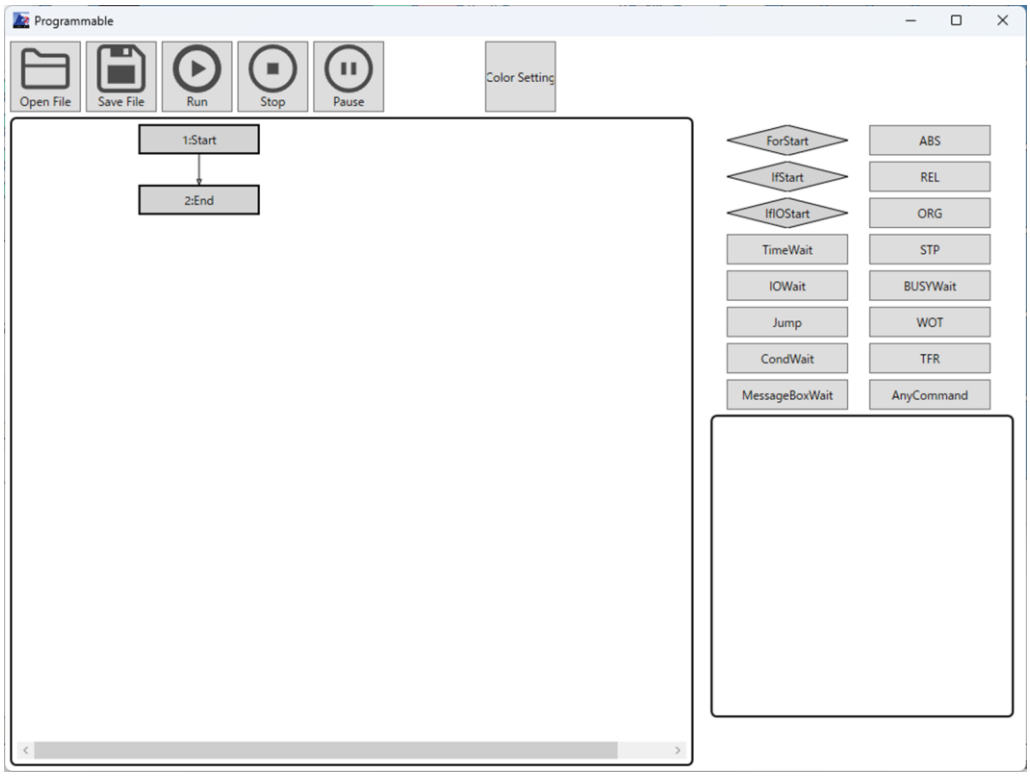
The program window is a teaching function that adds functions such as simple macros.

If the total number of axes in the previously set display color setting and the axis setting are different, the message box shown below is displayed when the program window is started, and the display color setting is initialized.

For information about display color settings, see 13.7 Program Display Color Settings.



13.2. Basic functions of the program window



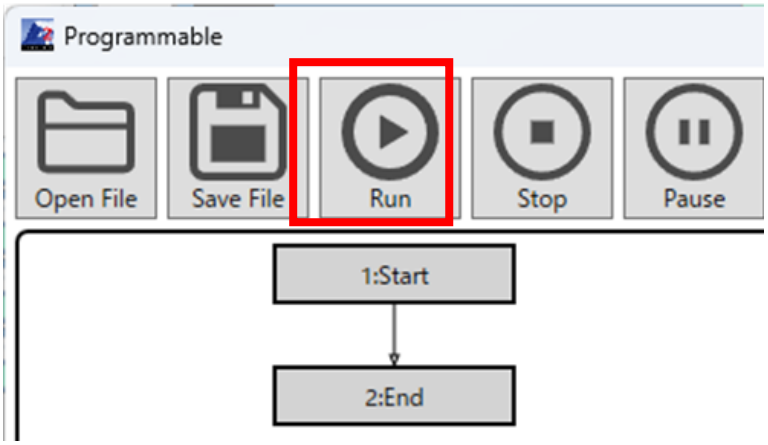
It automatically drives the stage connected to the controller according to the flowchart.

As a rule, the contents of the flowchart are executed from top to bottom, from the Start unit to the End unit.

Flowcharts can be created by dragging and dropping the mouse cursor.

In the following discussions, one item in the flowchart, such as "start" or "end", is referred to as a unit.

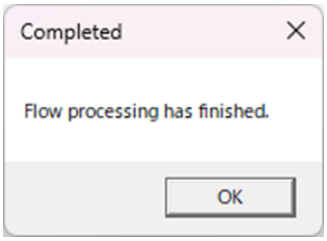
13.3. Run the program



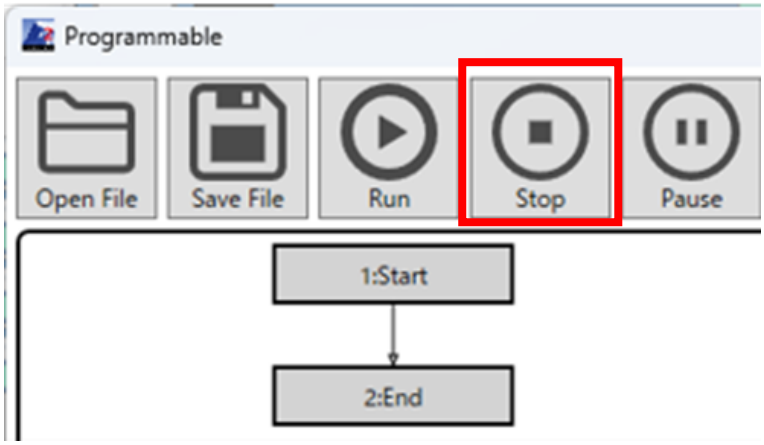
Click the Run button in the Program Window to run it.

When running, the running unit in the flowchart will light green.

When the execution is complete, the message shown in the figure below is displayed.

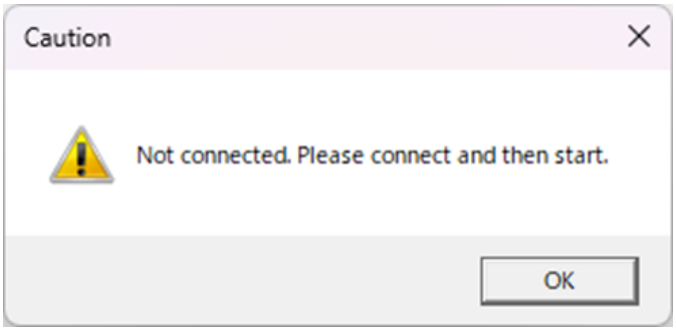


13.4. Stopping the program

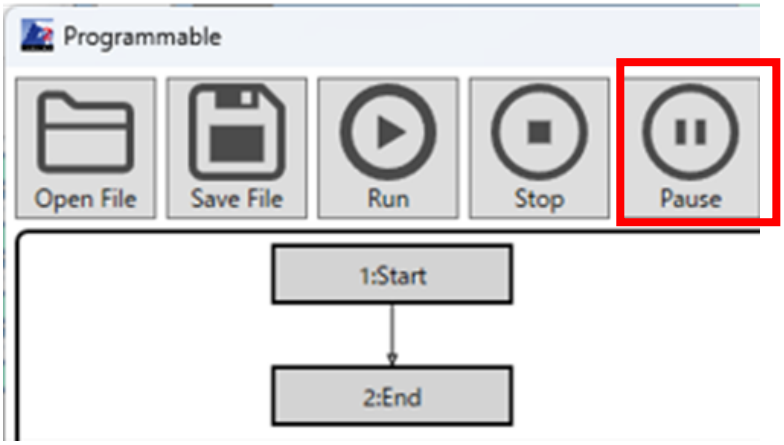


Click the "Stop" button to stop. Stopping with the "Stop" button means an emergency stop, which will stop immediately. In addition, it is not possible to resume from the stopped position. If there is a possibility of resumption, please use the "Pause" button.

When stopped, the message shown in the figure below is displayed. The stopped unit number is displayed together.



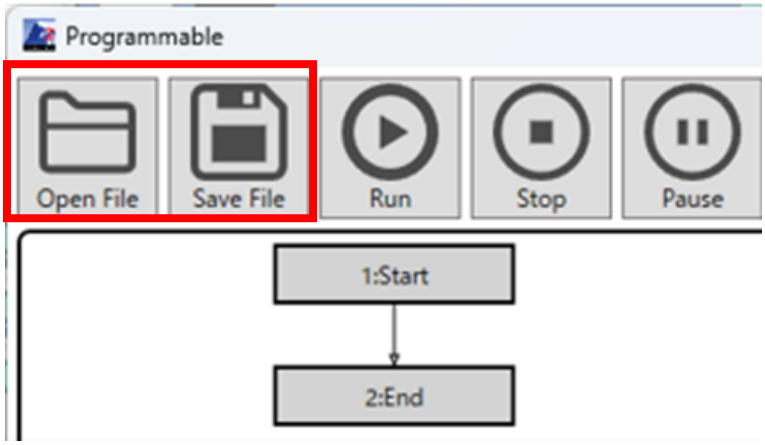
13.5. Pausing a program



Click the Pause button to pause the program after running the currently running unit

To resume the program, press the "Pause" button again.

13.6. Input and output of program data



Program data can be stored in a file.

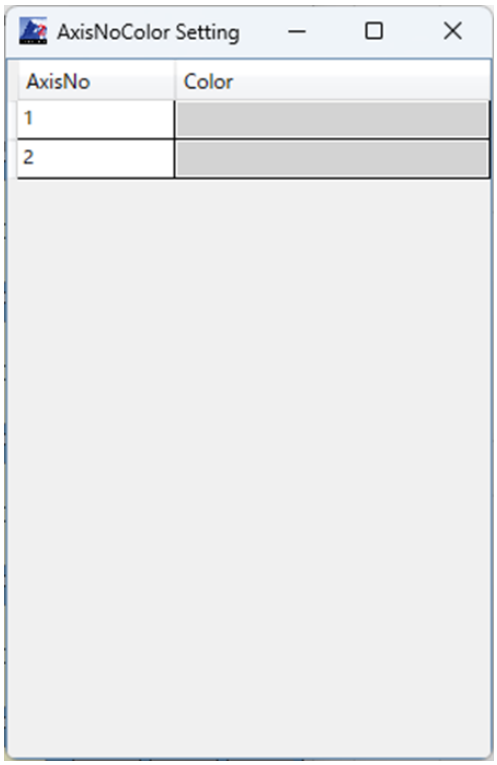
Data can also be read from a file.

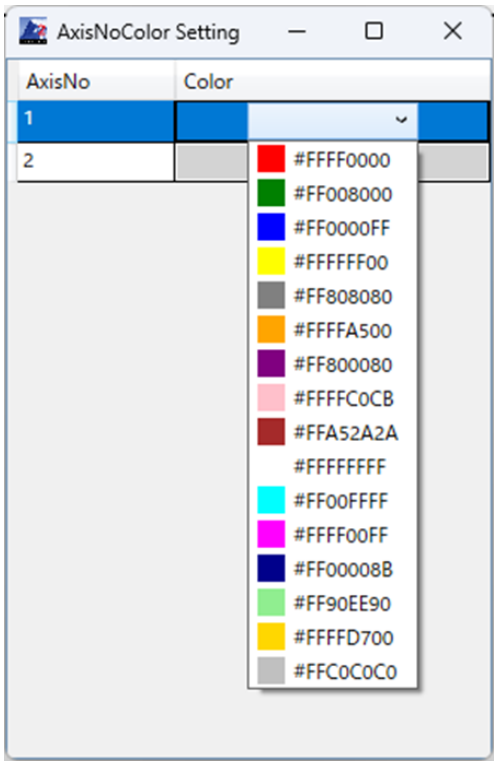
The file uses the CHAP format and contains plain text data.

13.7. Setting the display color of the program

Click the "Display Color Settings" button to display the display settings window.

When you close the display settings window, the display color of the flowchart is updated.





The Axis Number displays the number of rows corresponding to the total number of axes in the axis configuration.

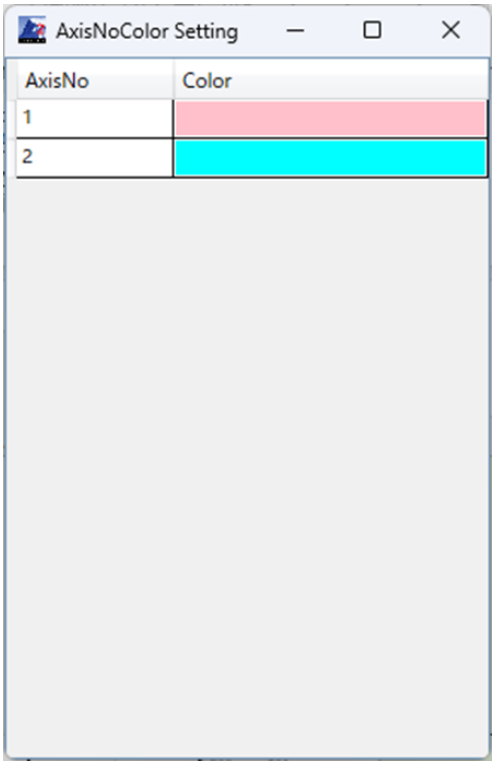
If you click twice on the "display color" cell (gray area in the upper left image), the combo box will appear as shown in the upper right image. Choose the display color from among them.

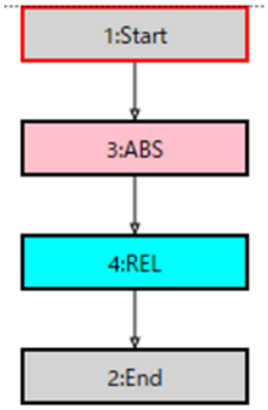
The display colors of the units with axis numbers, "Absolute Position Drive", "Relative Position Drive", "Return to Origin Drive", "Drive Stop", and "Wait for Drive Completion" are set to the color according to the display color setting.

For example, the display of the flowchart when the display color is set is as follows.

The axis number of "3: Absolute Position Drive" is set to "1", and the axis number of "4: Absolute Position Drive" is set to "2".

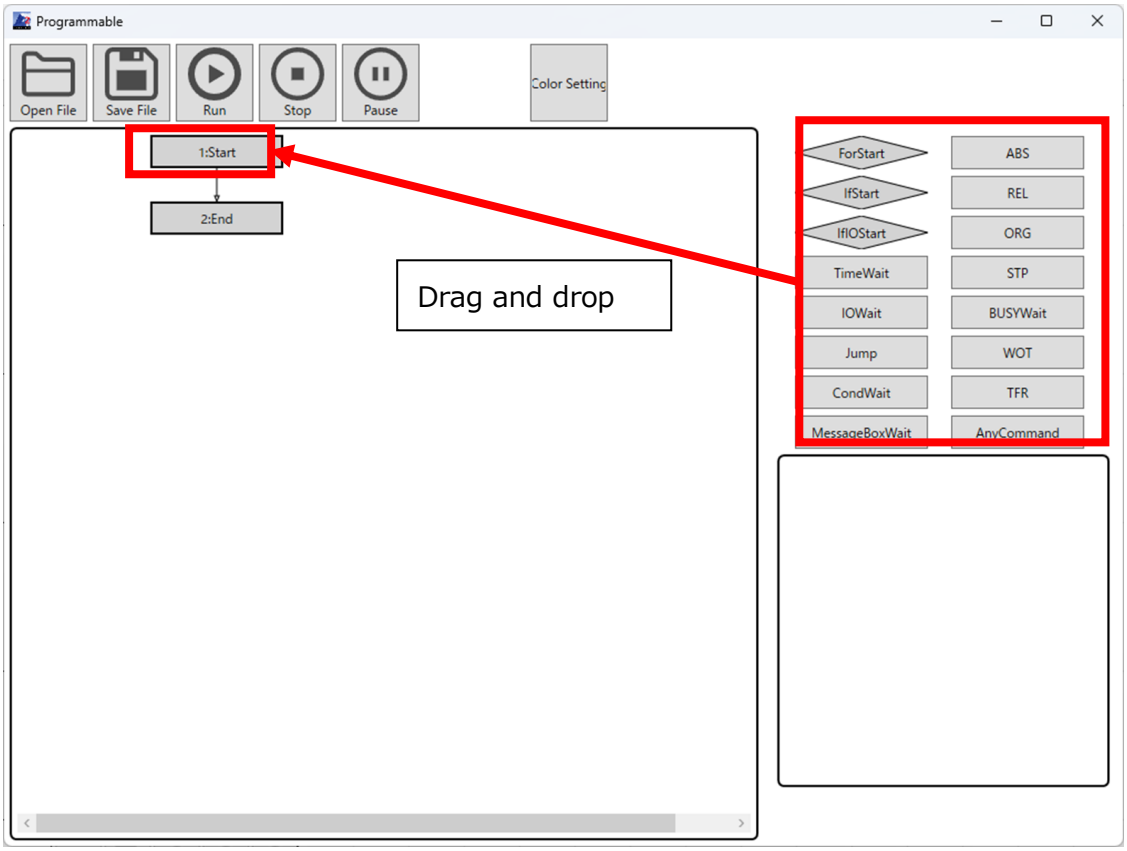
For information about units, see 13.9 Program Units.





13.8. Working with the program

13.8.1. Adding Units

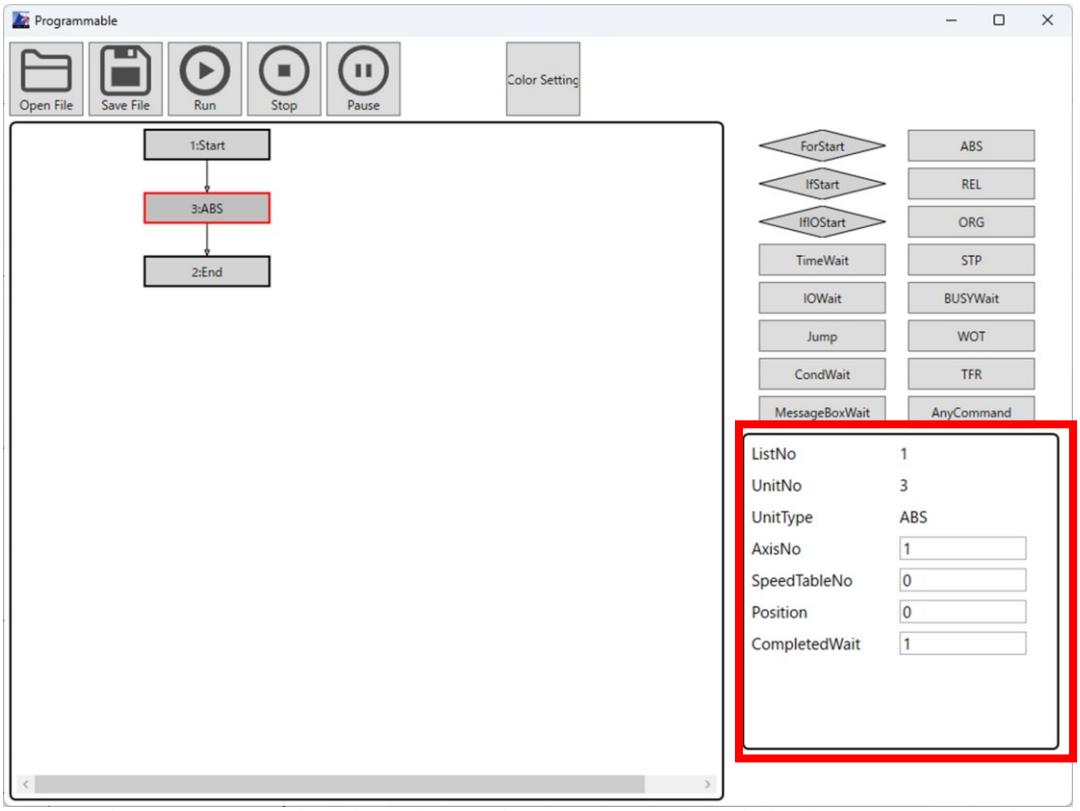


Drag the unit you want to add to the flowchart from the right button on the program screen and drop it into the unit you want to add in the left flowchart.

A new unit will be added that is dragged behind the unit in the position you want to add.

You cannot add a unit behind the exit unit.

13.8.2. Unit selection and editing



When you click a unit in the flowchart, the frame of the clicked unit turns red and is in the selected state.

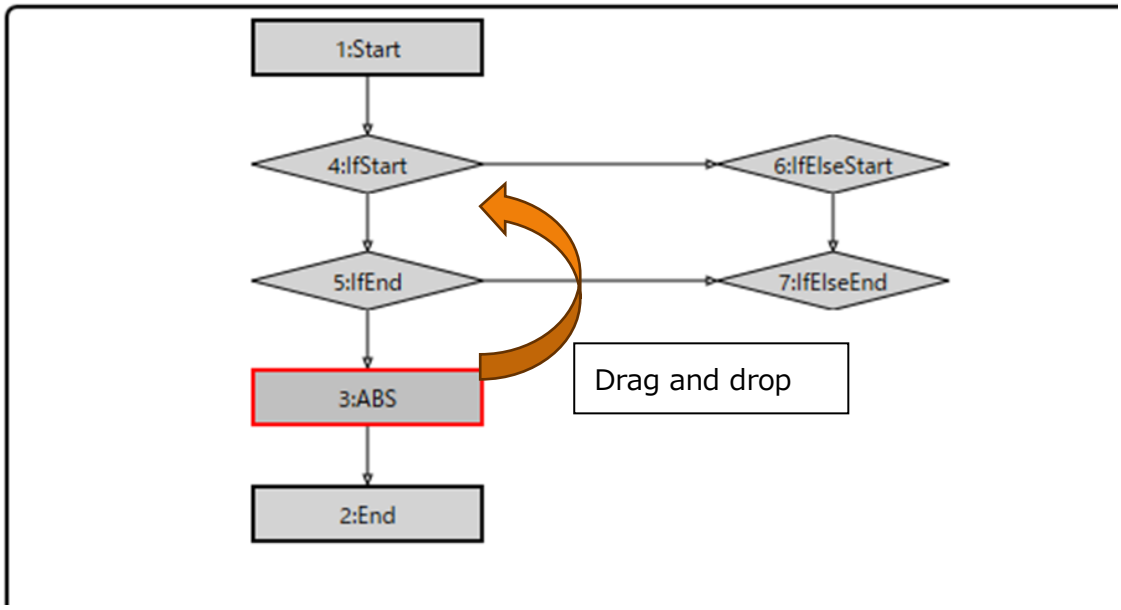
The selected unit displays property information at the bottom right of the program screen. You can edit this displayed property information. For information on the content of property information, refer to the description of each unit of the program unit.

If the selected unit is a diamond-shaped unit, such as a repeat, branch, or I/O branch, all units between the start and end are selected. The property information at this time displays the clicked unit.

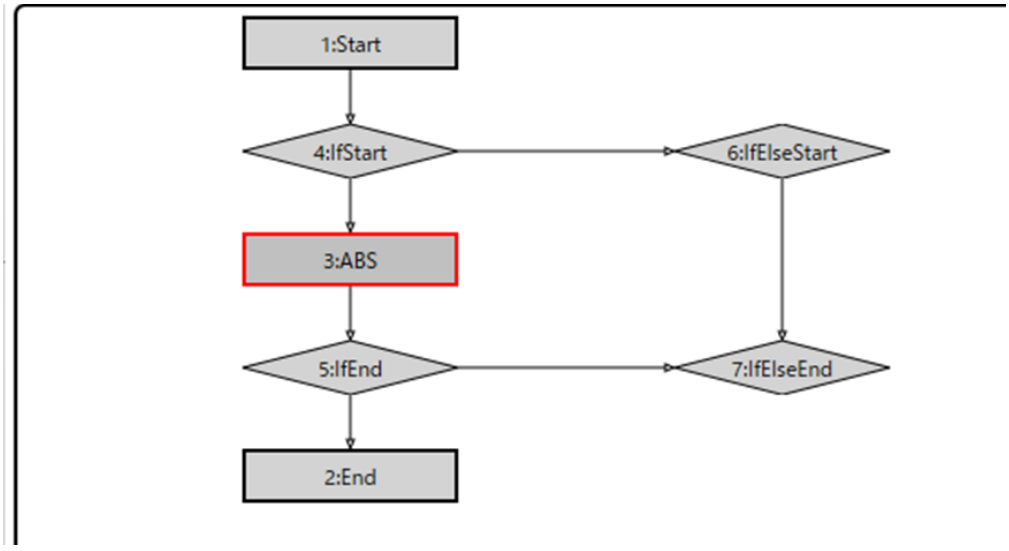
You can also select multiple units by holding down the control keys on the keyboard and clicking on the unit. However, in order to select multiple units, the units must be consecutive to each other.

13.8.3. Moving Units

You can move by dragging the unit you want to move and dropping it on the unit you want to move.

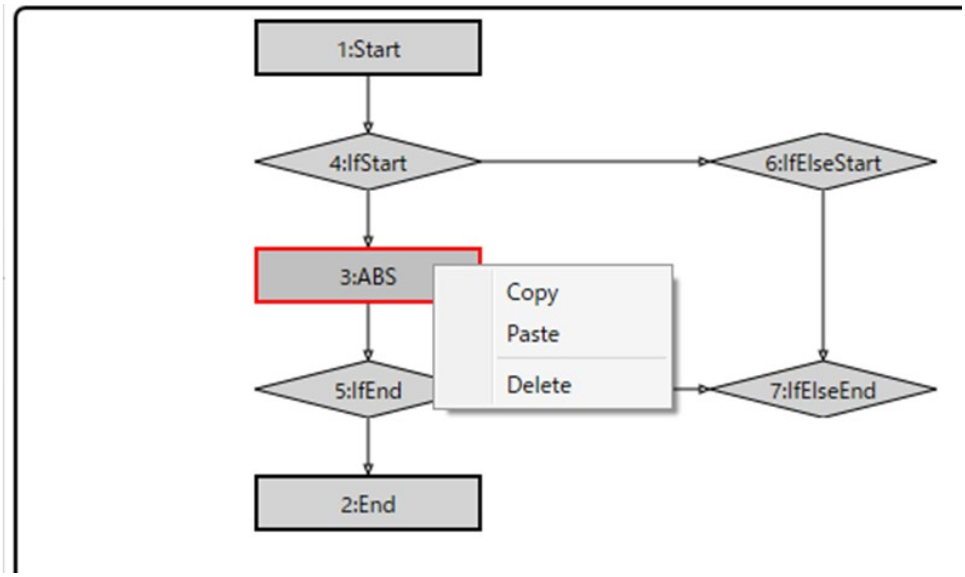


For example, if you move 3: Absolute position drive below 4: Branch start in the figure above, you can move it as shown in the figure below by dragging 3: Absolute position drive and dropping it to 4: Branch start.



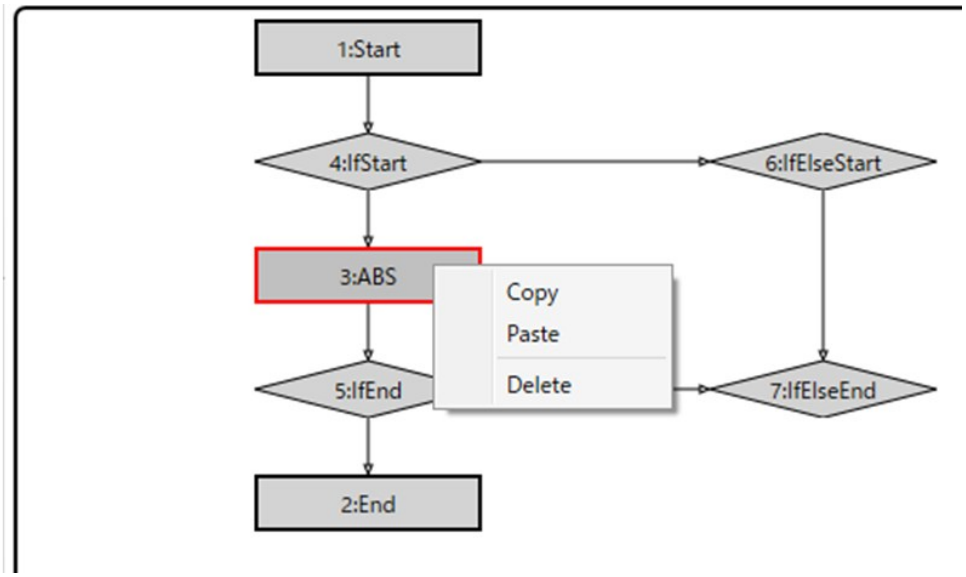
13.8.4. Removing a unit

You can delete a unit by selecting the unit you want to delete and selecting the Delete key on your keyboard or the right-click menu that appears.



13.8.5. Copying and pasting units

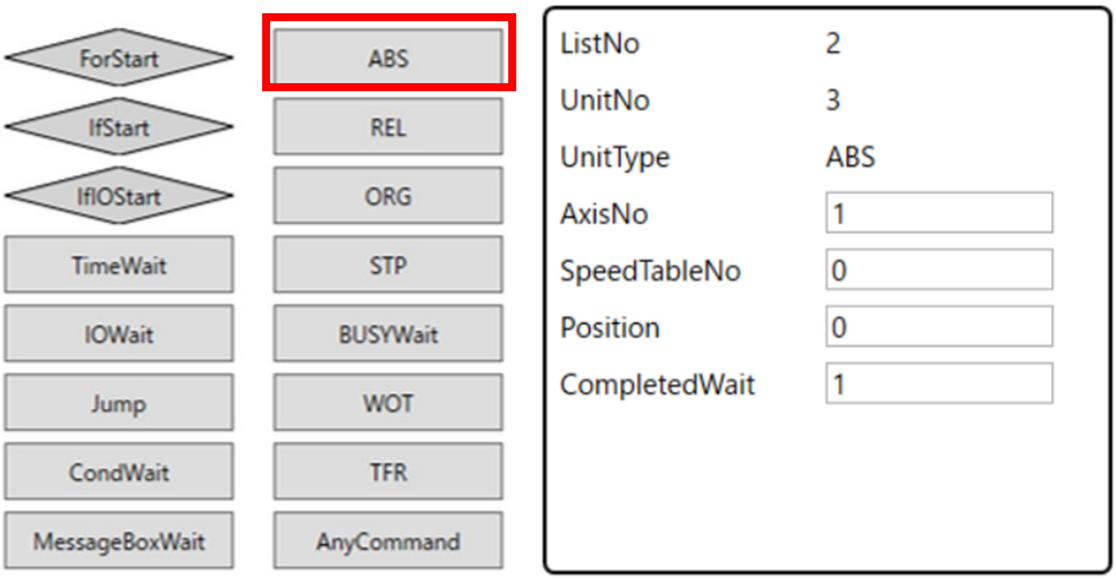
You can copy the unit by selecting the unit you want to copy, then pressing Ctrl + C on your keyboard, or by right-clicking and selecting Copy from the menu that appears.



You can then paste the copied unit by selecting the target unit, then pressing Ctrl + V on your keyboard, or by right-clicking and selecting Paste from the menu that appears.

13.9. Units of the program

13.9.1. Absolute position-driven "ABS"



Absolute position drive is a unit that performs the drive with absolute position management.

The information that can be specified is "axis number", "speed table number", "target coordinate (travel)", and "wait for drive completion".

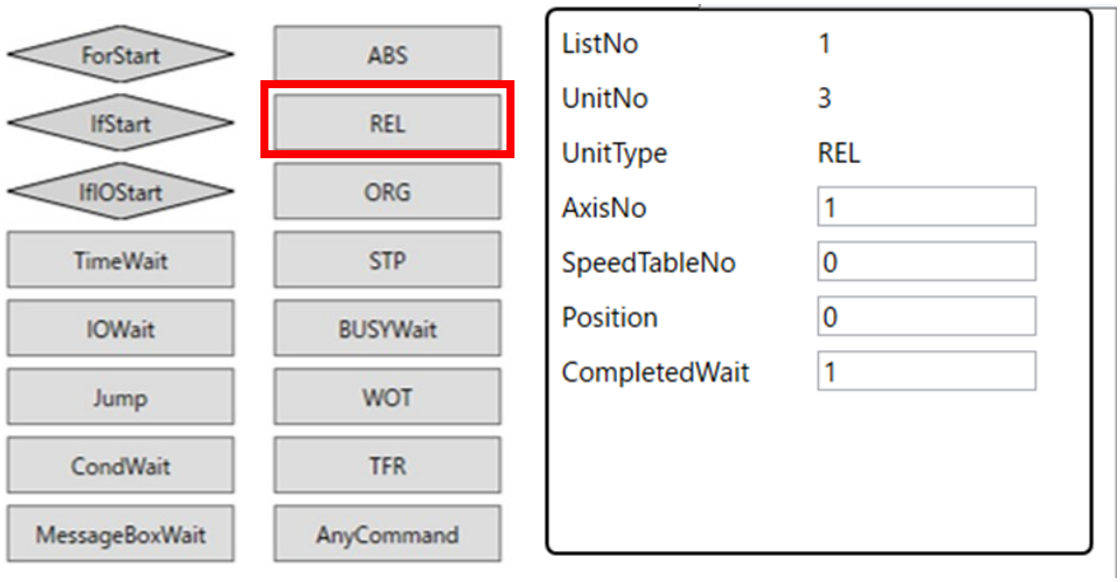
Moves the specified axis number to the target position at the speed of the specified speed table number.

If the motor pulse resolution is set in the axis setting, specify the target coordinate (travel) as the conversion value[10].

When the drive completion wait is "1", it waits for the next unit to run until the drive to the target coordinates is completed at the time of execution. For other values, run the next unit without waiting until the drive is complete.

[10] By default, it is set to enter in pulses.

13.9.2. Relative position drive "REL"



Relative position drive is a unit that performs the drive with relative position management.

The information that can be specified is "axis number", "speed table number", "target coordinate (travel)", and "wait for drive completion".

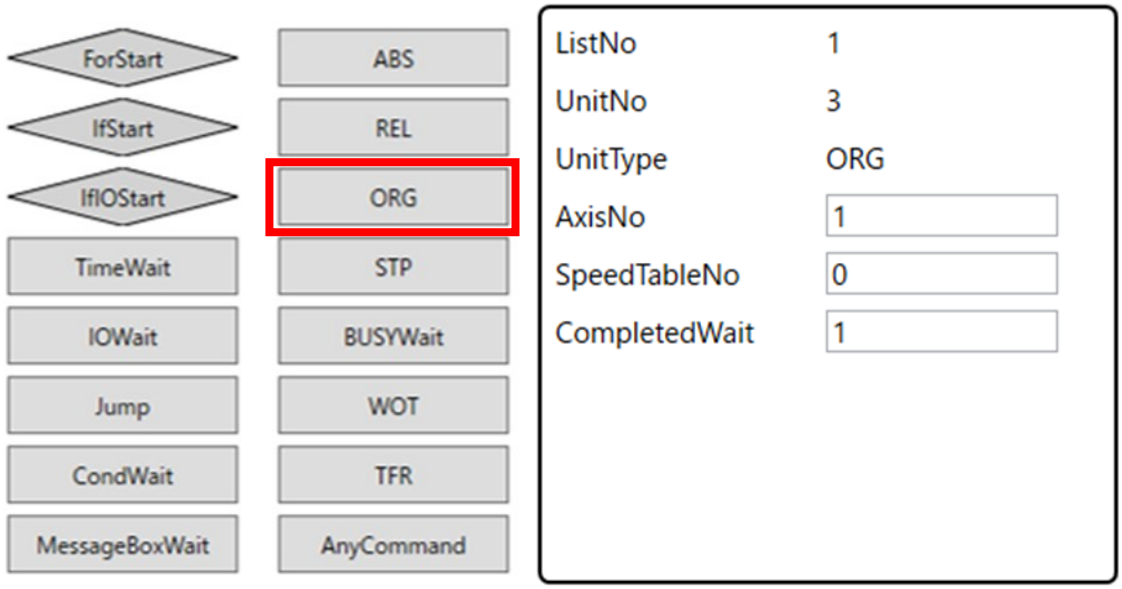
Moves the specified axis number to the target position (amount of travel) at the speed of the specified speed table number.

If the motor pulse resolution is set in the axis setting, specify the target coordinate (travel) as the conversion value[11].

When the drive completion wait is "1", it waits for the next unit to run until the drive to the target coordinates is completed at the time of execution. For other values, run the next unit without waiting until the drive is complete.

[11] By default, it is set to enter in pulses.

13.9.3. Return to origin drive "ORG"



The homing drive is a unit that performs homing.

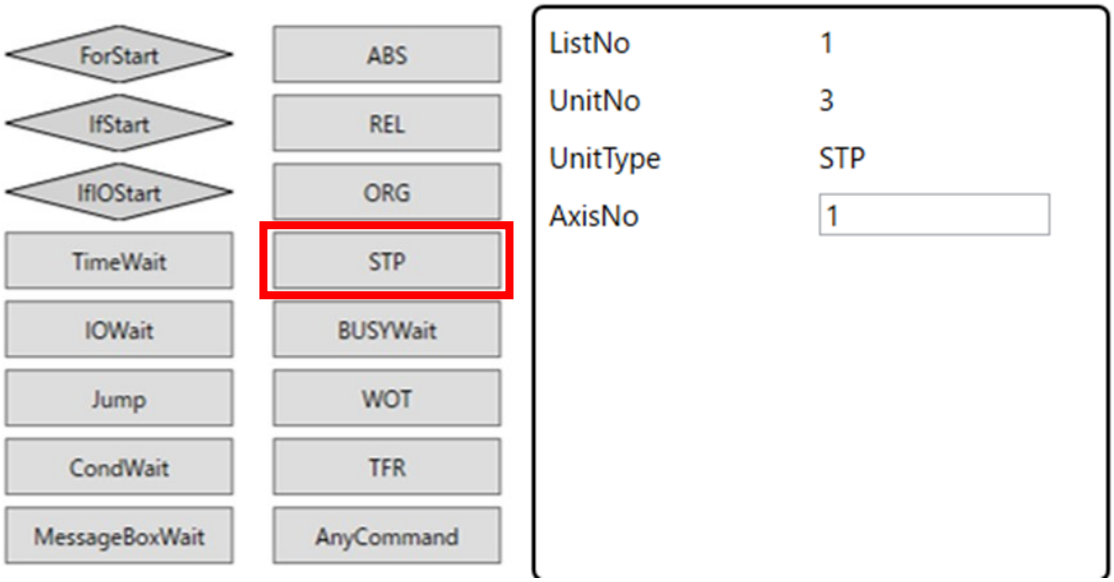
The information that can be specified is "axis number", "speed table number", and "wait for drive completion".

The homing method follows the controller's settings.

If you specify 0 for the axis number, the homing is performed for all axes with axis settings.

When the drive completion wait is "1", it waits for the next unit to run until the drive to the target coordinates is completed at the time of execution. For other values, run the next unit without waiting until the drive is complete.

13.9.4. Drive Stop "STP"



The drive stop is the unit that performs the drive stop.

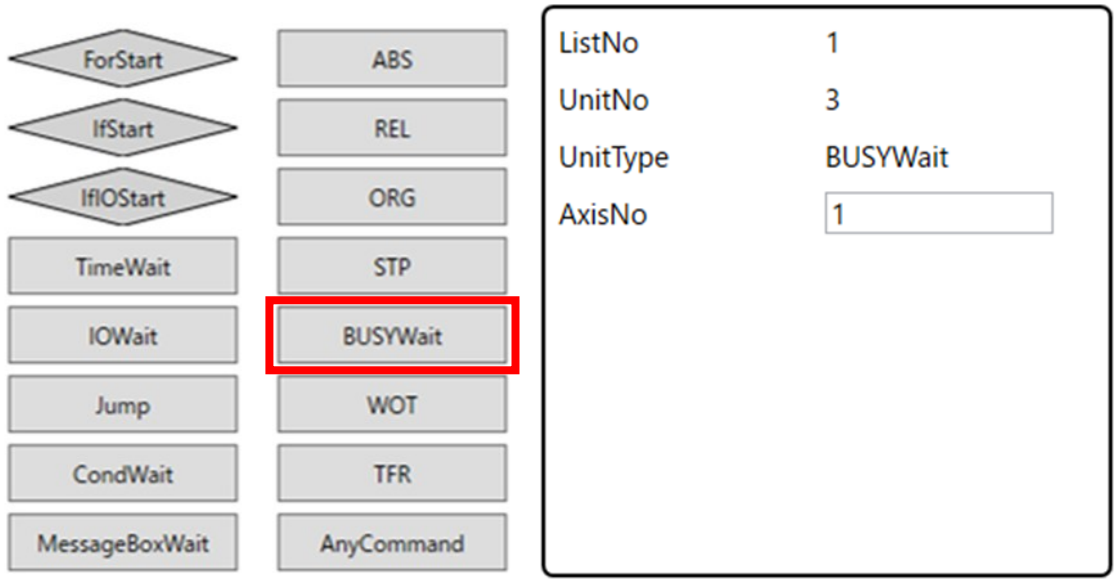
The information that can be specified is the Axis Number.

Perform a drive stop on the axis specified in the axis number.

If 0 is specified for the axis number, the drive stop is performed for all axes with axis settings.

The drive stop method is a deceleration stop.

13.9.5. Wait for drive completion "BUSYWait"



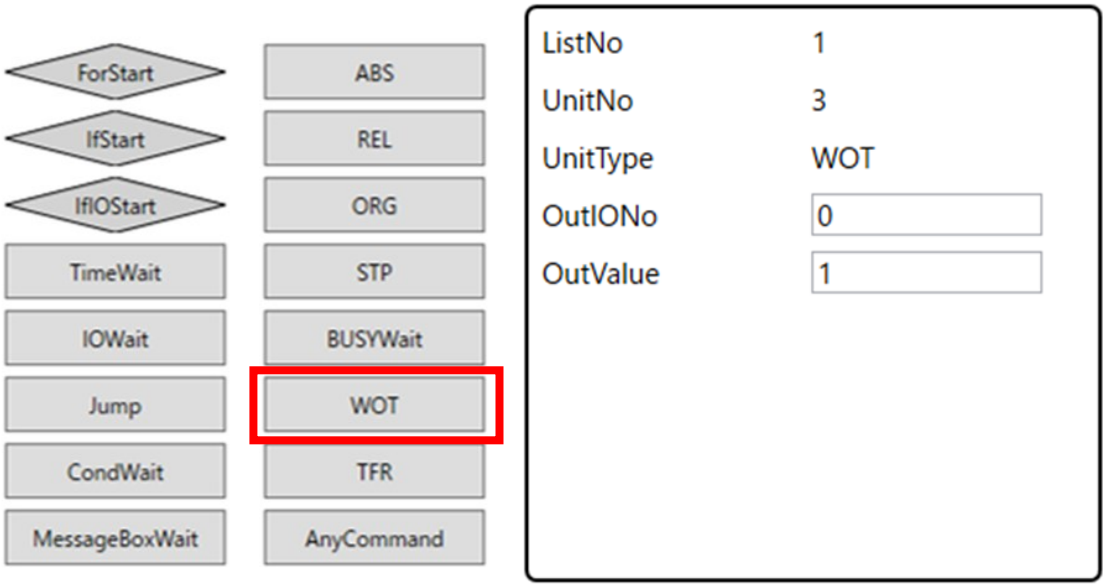
Waiting for Drive Completion is a unit that checks the driving status and waits until it is completed.

The information that can be specified is the Axis Number.

Check the drive status for the axis specified in the axis number and wait for it to complete.

If 0 is specified for the axis number, all axes with axis settings are targeted and the drive completion wait is performed.

13.9.6. Output (ARIES only) "WOT"



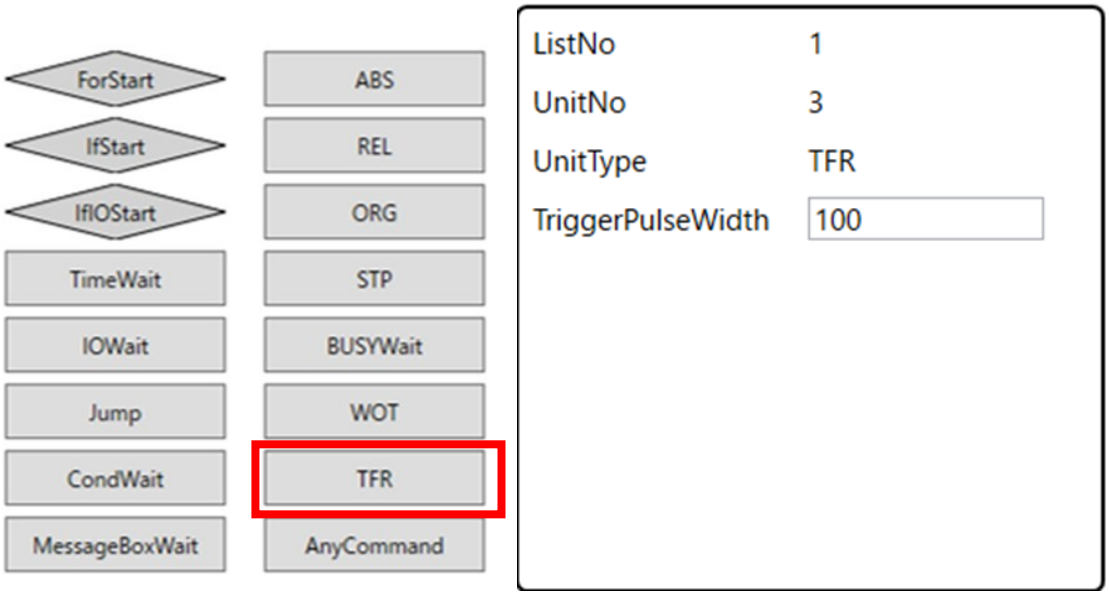
The Output output is a unit that turns on and off the general-purpose output of ARIES.

The information that can be specified is "I/O number" and "output value".

The I/O number is the output pin corresponding to the specified number from 0~7.

The output value is OFF at 0 and ON at 1. Other values cannot be toggled between ON/OFF states.

13.9.7. Trigger Output (ARIES only) "TFR"

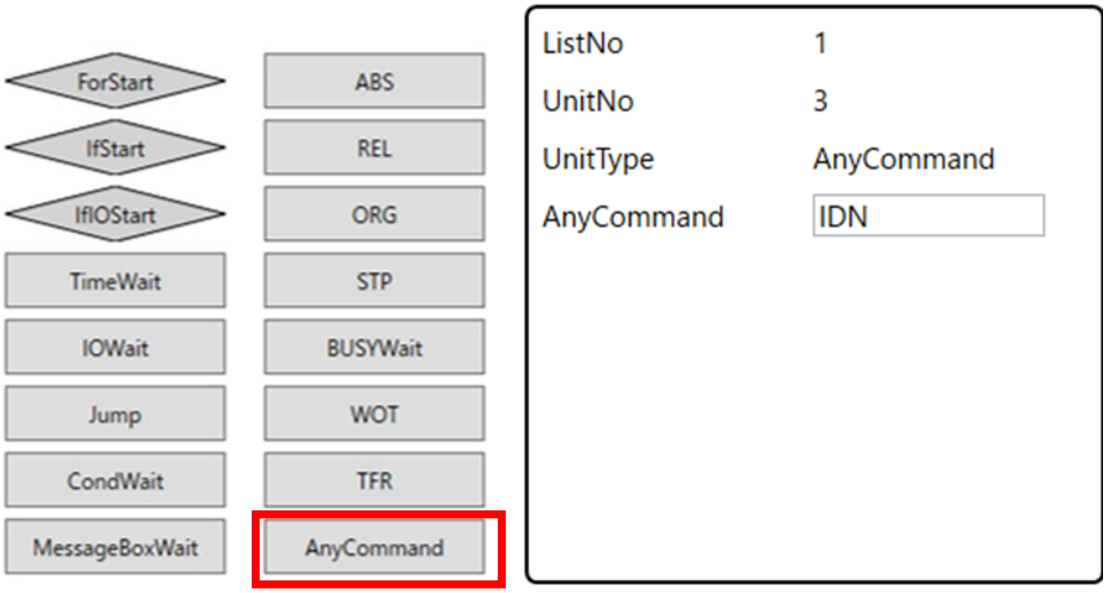


The trigger output is the unit that performs the one-shot trigger output of ARIES.

The information that can be specified is Pulse Width [msec].

The pulse width [msec] can be set from 1~1000, and the trigger signal of the specified pulse width is output.

13.9.8. Optional Commands "AnyCommand"

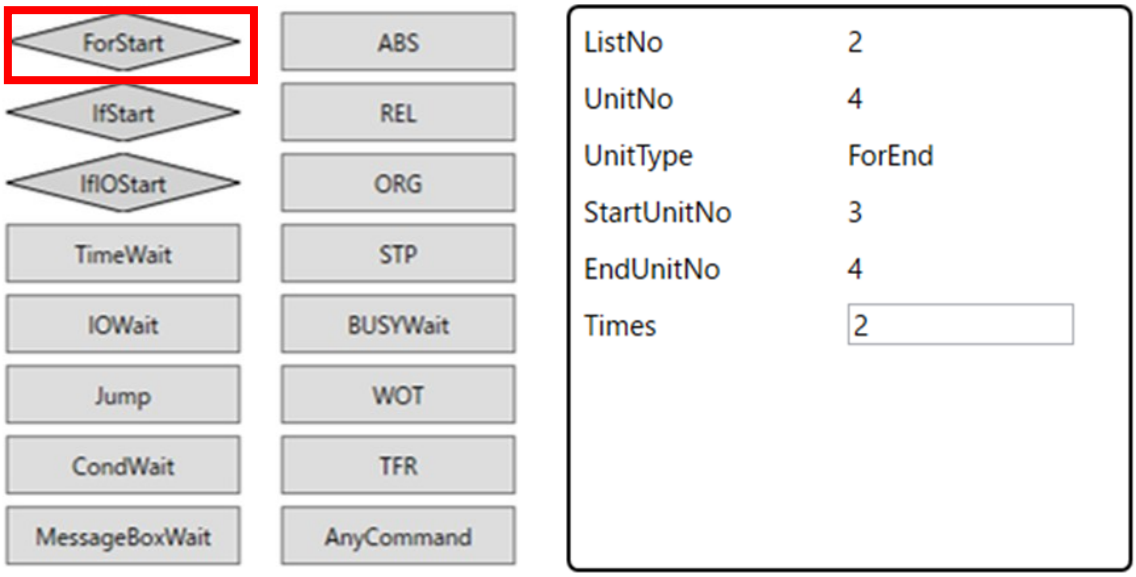


An arbitrary command is a unit that sends a specified command.

The information that can be specified is "optional command".

Send the string specified in any command to the controller. The header and delimiter characters of the controller's command format are automatically assigned, so there is no need to fill in any commands.

13.9.9. Start repeating "ForStart"



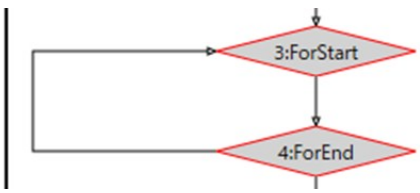
A repeat start is a unit that repeats between the start of the iteration and the end of the iteration in the flowchart.

The information that can be specified is the number of iterations.

The number of repetitions specifies the number of times the iteration is repeated between the start of the iteration and the end of the iteration.

The number of repetitions can be entered with any integer (-1 or higher). If you specify -1, you will be in a state of infinite repeating.

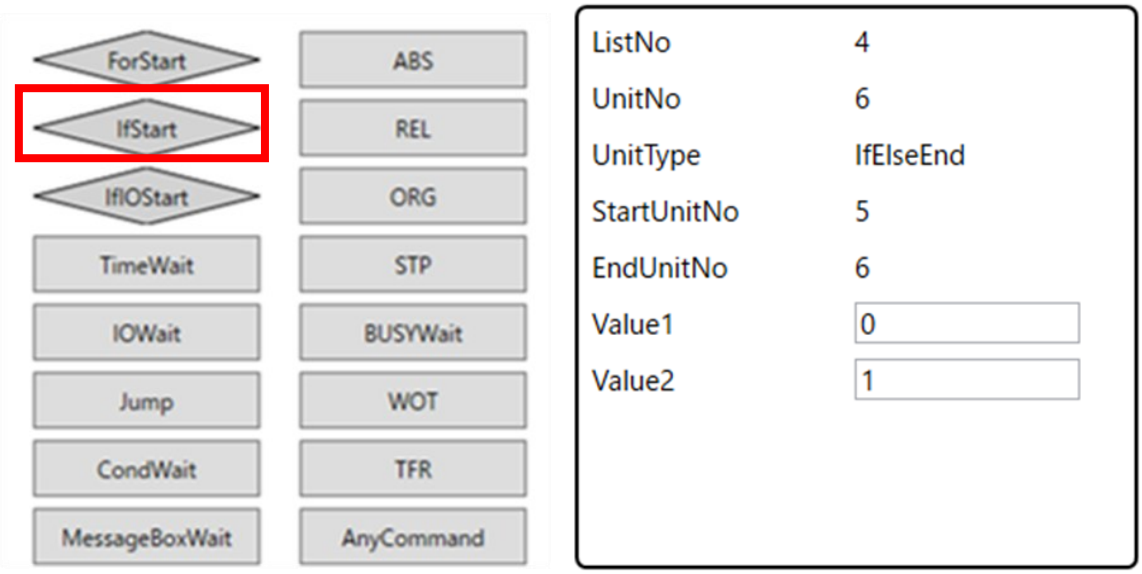
When you add a repeat start to a flowchart, it also adds a repeat end unit just below the repeat start unit.



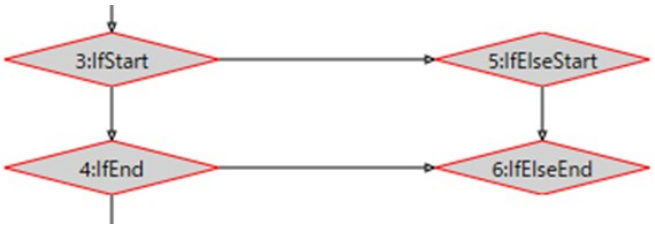
When you click on the Repeat Start and Repeat End units to select them, all units included in the recurrence are selected.

In addition, when clicking on a repeat start and end repeat unit, the number of repetitions of the property information is set to the same value no matter which unit you change.

13.9.10. Branching start "IFStart"



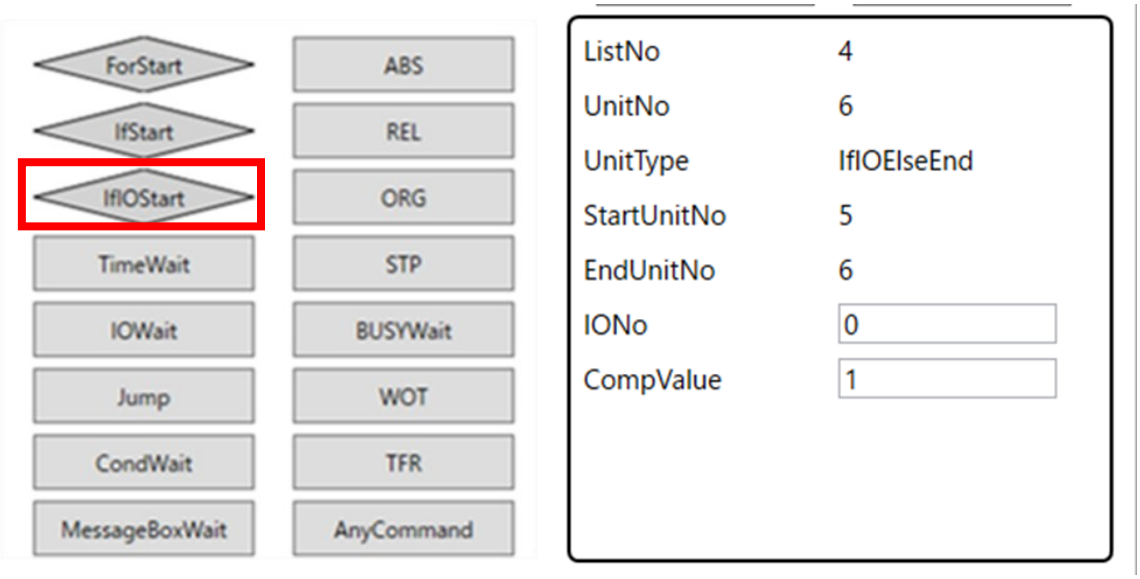
A branch start is a unit that branches the flow chart execution according to the branch conditions.
The information that can be specified is "Comparison Target 1" and "Comparison Target 2".
Comparison objects 1 and 2 can be entered with any integer.
Executes between the start ~ end of the branch where Comparison Object 1 and Comparison Object 2 match.
When you add a branch start to the flowchart, a branch end unit is added just below the branch start, and a branch start is added next to the branch start.



All units added at the beginning of the branch have the same value for the comparable 1.
The longitudinal branch start and end of the branch, respectively, have the same values for the comparison object 2.

When you click on the branch start and end branch units to select them, all units included in the branch are selected (including branch destinations).
In addition, when you click on a branch start and branch end unit, the property information to be compared 1 will be the same value no matter which unit you change. Comparable 2 is set to the same value for the same unit in the longitudinal position.

13.9.11. I/O Branch Start (ARIES only) "IFIOStart"



The I/O branch start is the unit that branches the flow chart execution according to the branch conditions.

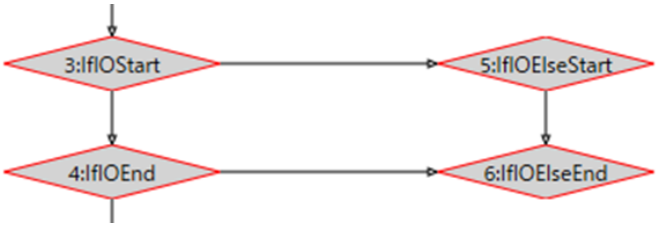
The information that can be specified is "I/O number" and "branch condition judgment value".

The I/O number can be set with a value from 0~7.

The branching condition judgment value can be set to 0 (OFF) or 1 (ON).

Executes between the start of the I/O branch ~ the end of the I/O branch, where the state of the generic input specified in the I/O number matches the branch condition judgment value.

When you add an I/O branch start to the flowchart, an I/O branch end unit is added just below the I/O branch start, and an I/O branch start is added next to the I/O branch start to be the branch destination.

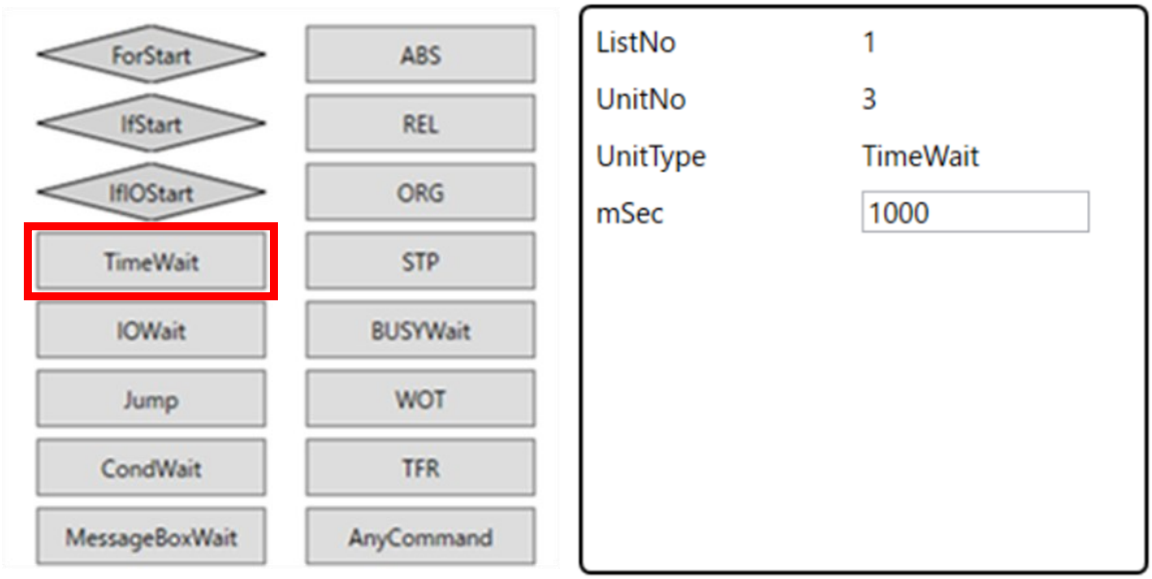


All units added at the start of the I/O branch have the same value for the I/O number.

The longitudinal I/O branch start and I/O branch end have the same value for the branch condition decision.

When you click on the I/O branch start and I/O branch end units to select them, all units included in the middle are selected (including branch destinations).
In addition, the I/O number of the property information when you click on the I/O branch start and end I/O branch unit will be the same no matter which unit you change. The branching condition verdict is set to the same value for units with the same longitudinal position.

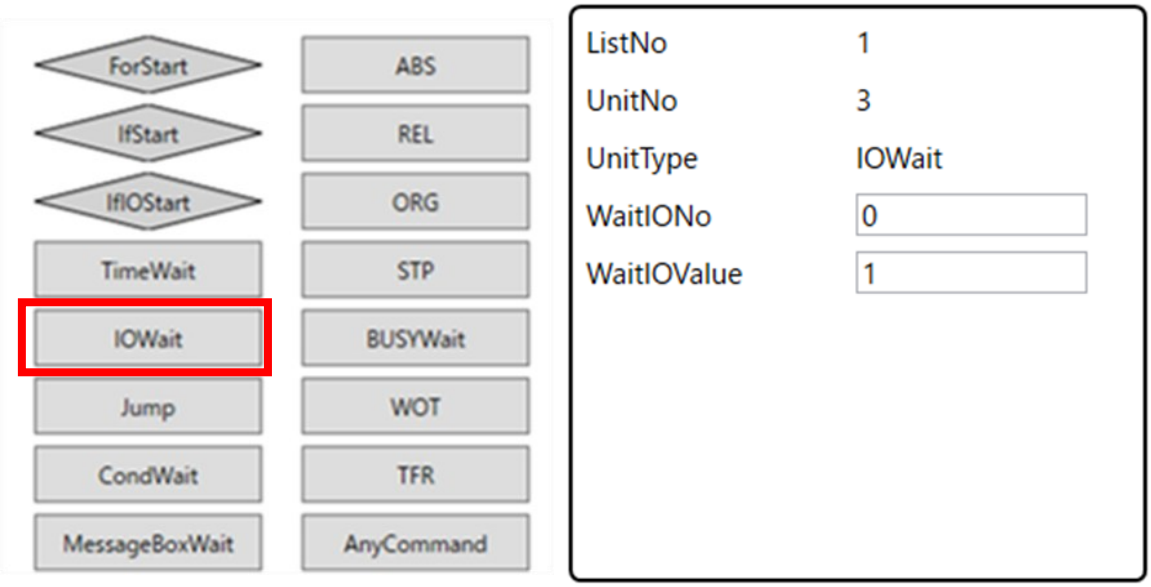
13.9.12. Time Standby "TimeWait"



A time wait is a unit that waits for a specified amount of time.
The information that can be specified is Latency [msec].

Wait for the time specified in the wait time [msec].

13.9.13. I/O Standby (ARIES only) "IOWait"

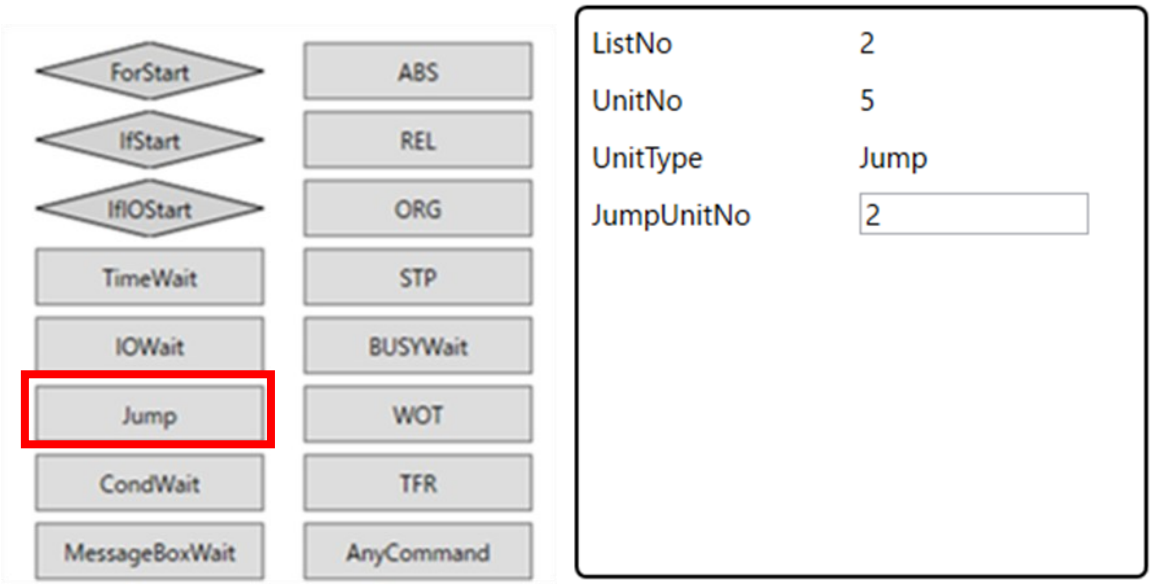


I/O Wait is a unit that waits until the general-purpose input state of ARIES matches the conditions.
The information that can be specified is "I/O number" and "waiting condition judgment value".
The I/O number can be set with a value from 0~7.

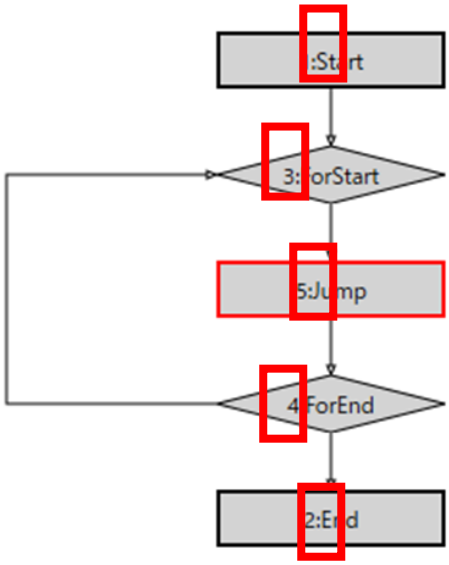
The wait condition judgment value can be set to 0 (OFF) or 1 (ON).

Wait until the generic input state of the I/O number matches the value of the wait condition verdict.

13.9.14. Jump

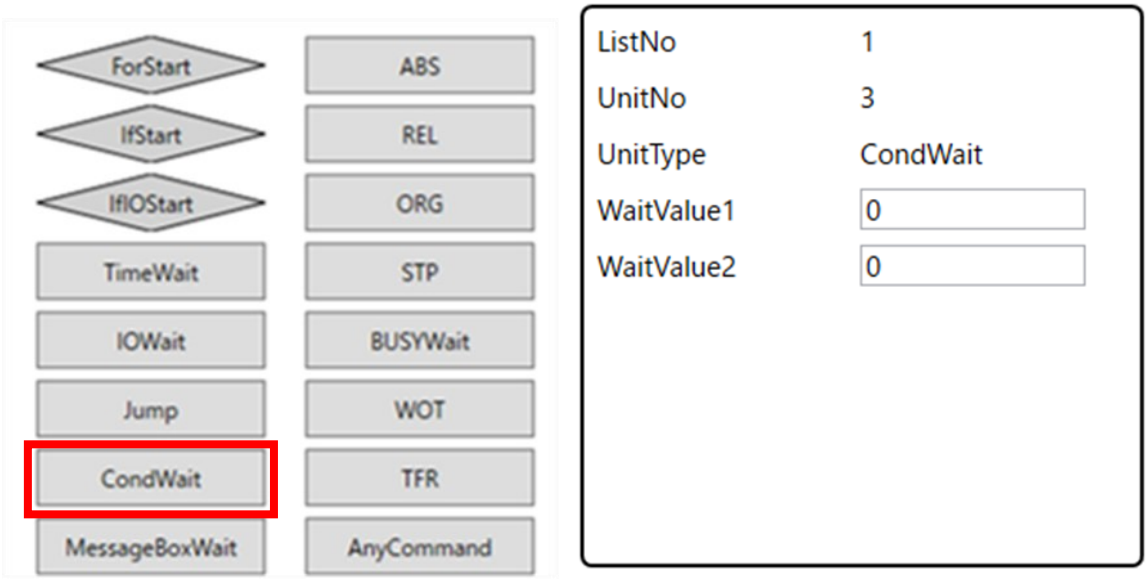


The jump unit is a unit that skips processing to another unit between the start ~ end of the repetition.
The information that can be specified is the "Jump to Unit Number".
Specify the unit number of the unit that already exists in the flowchart for the unit number to jump to. The unit number is the number at the beginning of the unit in the flowchart. The default value is 2 (ending units).



Jumps are units that can only be used during the start ~ end of the repetition.

13.9.15. Conditional Standby "CondWait"

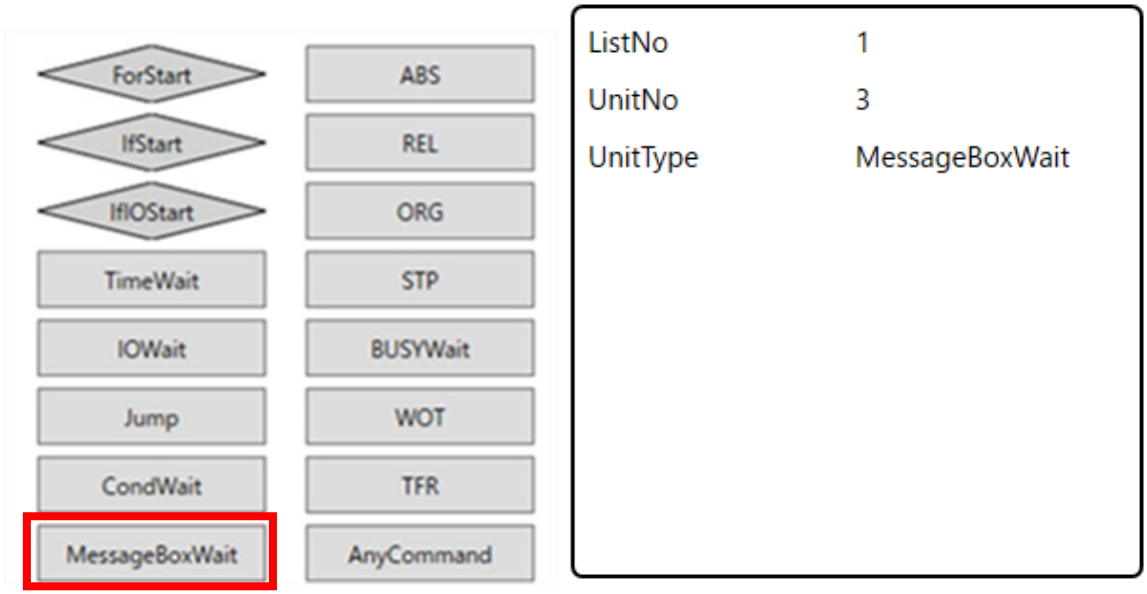


A conditional wait is a unit that waits for the flow chart to run according to the branch condition.
The information that can be specified is "Comparison Target 1" and "Comparison Target 2".

Comparison objects 1 and 2 can be entered with any integer.

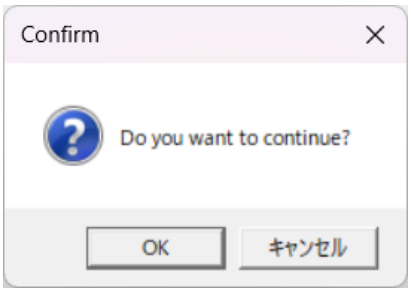
Wait for the flowchart to run until Comparison 1 and Comparison 2 match.

13.9.16. Message Box Waiting



The Message Box waiting unit is the unit that displays the message box and waits for the flowchart to run.

If you select OK in the message box shown in the image below, run the following units and continue running the flowchart.
If you select Cancel or close the message box, stop running the flowchart.



13.9.17. Program Command List

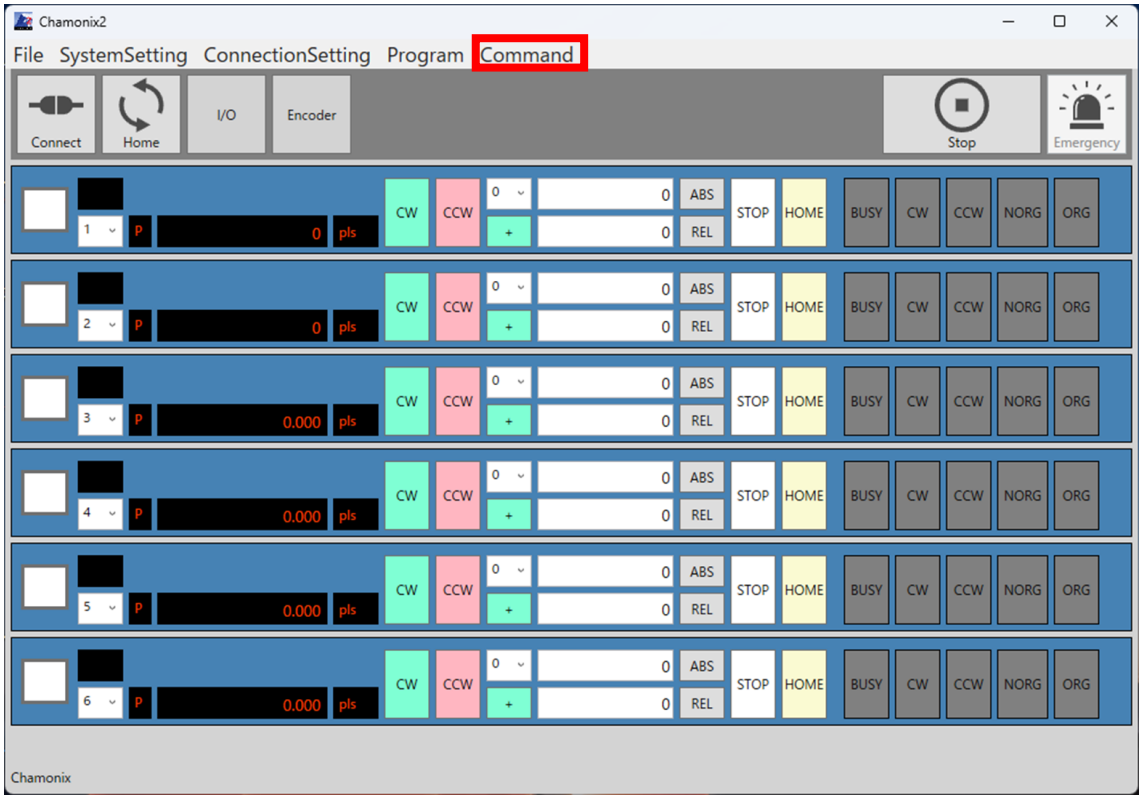
Summarize the commands of the program. See the description of each command for more information

Command name	Command Type	ARIES only	Explanation
ABS	Drive order		It is driven with positioning by absolute position management.
REL	Drive order		It is driven with positioning by relative position management.
ORG	Drive order		We will return to the starting point.
STP	Drive order		Stop the drive.
BUSYWait	Drive order		Wait for the flow to run until the drive is complete.
WOT	Controller function	○	Turn the general-purpose output on and off.
TFR	Controller function	○	Trigger output.
AnyCommand	Controller function		Send any command.
ForStart	Flow control		Run the flowchart for the specified range repeatedly.
IfStart	Flow control		Conditionally branch the runs of the flowchart.
IfIOStart	Flow control	○	Conditionally branch the runs of the flowchart.
TimeWait	Flow control		Wait for the flowchart to run for a time.
IOWait	Flow control	○	Wait for the flowchart to run until the generic input matches the criteria.
Jump	Flow control		Skip the process from within the iteration to the specified unit.
CondWait	Flow control		Wait for the flowchart to run until the conditions are matched.

Command name	Command Type	ARIES only	Explanation
MessageBoxWait	flow control		Wait for the flowchart to run until the message box operation is complete.

14. Enter remote commands directly

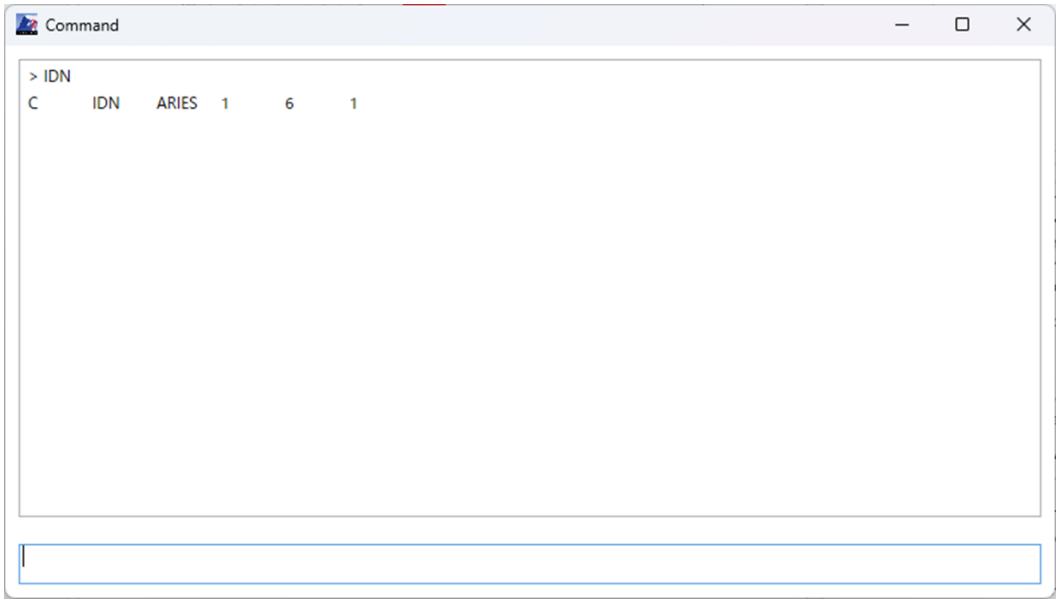
14.1. Launching Command Control



Click "Command" in the menu to launch the command window.

The command window allows you to enter commands to send to the controller from the keyboard.

14.2. Sending commands from Command Control



Enter a command in the send box and press "Enter" to send it to the controller. The STX [12] header and CRLF [13] delimiter required for RS-232C communication are automatically added.

Commands entered in lowercase will be converted to uppercase. This window displays both the sent commands and the controller's responses in the log window.

The app does not perform any error checking. Please enter the correct command. If an incorrect command string is sent to the controller, an error will be returned according to the controller's specifications. For details, please refer to the controller's user manual.

You can use the up and down arrow keys on your keyboard to recall previously sent commands into the send box after launching this window.

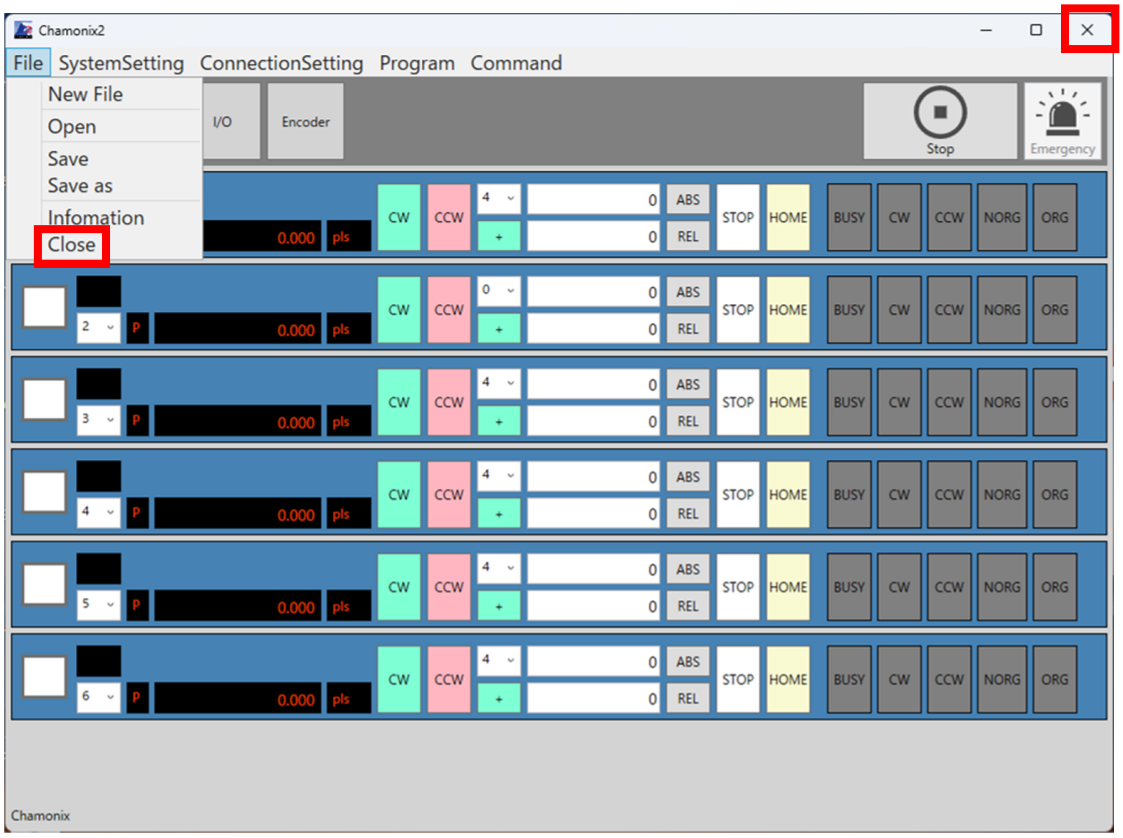
---

[12] "STX" is not a three-letter "S", "T", and "X", but a one-letter control character that means "text start".

[13] "CR" is a control character that represents a return rather than a two-letter romanization.
"LF" is a control character that also represents a line break.

15. Quit Chamonix 2

15.1. Quit Chamonix 2



Click the [X] button or click Close in the menu "File" to exit Chamonix2.
When you finish, write the parameters of the screen settings and axis settings at the end to PreKOSMOSParameter.kpf and PreChamonixParameters.cpf in the "Chamonix" folder in My Documents.

Connection settings (RS232C check, port name, baud rate, TCP/IP check, IP address, port number) and display settings for each axis (I/O field display, speed table number, ABS target coordinates, REL travel, REL travel code, axis operation check, axis number, axis name, encoder pulse display unit, motor pulse display unit, plus pulse JOG notation character, Negative Pulse JOG notation, I/O input name, I/O output name) in PreChamonixParameters.cpf.

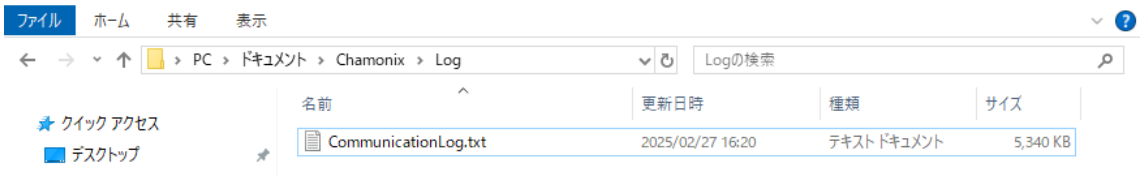
Save the contents of the axis settings to PreKOSMOSParameter.kpf.

If it is not launched from the startup file, it will be in the default state of each item corresponding to PreChamonixParameters.cpf. PreChamonixParameters.cpf will have no axis settings.

If you exit Chamonix2 with the device connected, you will see a message asking if you can close it. If you agree to the message, send an STP command to all axes of the controller. If you control the drive with Chamonix2 and drop Chamonix2 while it is still running, it means that the drive will be canceled.

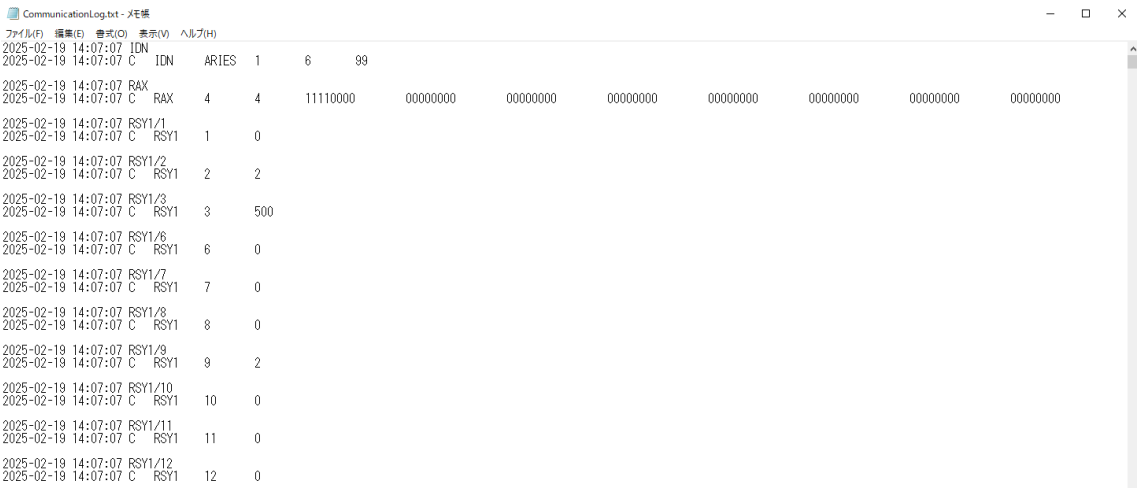
16. Other

16.1. Where to store communication logs



In the "Log" folder in the "Chamonix" folder in My Documents CommunicationLog.txt there is a log of communication with the controller in the file.

16.2. Check the communication log



This log file records recent sends and receptions to and from the controller.

The time of sending and receiving is recorded in the year, month, day, time, minute and second. The time is not accurate because it utilizes the system's clock.

If you're experiencing problems, parsing this file can help you get through faster troubleshooting.

Communication that is performed regularly in the connected state, such as obtaining the current value of the motor pulse of each axis or the BUSY state, is not added to the log file. This is to prevent the log file size from increasing due to the large amount of content written to the log file.

In addition, this log file will be initialized on the PC's system clock after more than 30 days have passed since the file itself was created. If you are experiencing problems, we recommend backing up your Log files at that time.

Check if more than 30 days have passed, and the time to initialize is when the connect button is pressed and communication begins.

Revision history

date	Editions	other
February 27, 2025	Rev.1.0.0	
July 31, 2025	Rev1.0.1	Add a message waiting for the program's message box Add a display color setting for a program

Recording Column

Purchased Date Year Month Date

Purchased from

Person in charge TEL

Production No.

Special note

Headquarters
Zip code: 215-8521
2-6-15, Kurigi, Asao-ku,
Kawasaki-shi,KANAGAWA, JAPAN

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