**SCARA Robot
YRCX Series**

SCARA-YRCX Studio Software

USER´S MANUAL

OMRON

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Before getting started

■ About this manual

This manual describes how to install SCARA-YRCX Studio support software for OMRON YRCX series robot controllers as well as major functions you can run with this software. Before installing SCARA-YRCX Studio be sure to read this manual and follow the instructions.

■ Software license agreement

This software may be used only when you agree to the terms stipulated below.
By using this software or installing it in a personal computer (PC), you are consenting to the terms stipulated below.
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■ CAUTION

- The setup disc is not an audio CD. Never play it in an audio CD player. The loud volume might seriously damage your hearing and/or the audio equipment. Furthermore, note that OMRON shall not be held responsible for any defects resulting from use of this setup disc.

- For information on how to operate the robot controller and the robot, carefully read the manuals for the controller and robot that you are using, and follow the instructions given in those manuals.

■ SCARA-YRCX Studio

■ System requirements

The following hardware and software are required to install and use SCARA-YRCX Studio.

Operating environment	Operating system (OS)	Microsoft Windows XP/Vista (32/64-bit)/7 (32/64-bit)/8 (32/64-bit)/ 8.1 (32/64-bit)/10 (32/64-bit)
	CPU	Recommended Intel® Core™2 Duo 2GHz or higher
	RAM memory	Recommended 1GB or more
	Available hard disk space	80MB of available space required on installation drive
	Communication port	Communication cable: Serial communication port, Ethernet port, or USB port
	Display	Screen resolution of 1024 x 768 (pixels) or more, 256 or more colors
	Others	CD-ROM drive Dedicated commutation cable (For D-Sub or USB) Ethernet cable (category 5 or better) USB port: 1 port (For USB key)
Applicable controller		YRCX
Applicable robot		OMRON robot that can be connected to the YRCX controller

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Safety Precautions (Always read before starting use)

Before using this product, be sure to read this manual carefully as well as the robot controller user's manual and programming manual. Take sufficient precautions to ensure safety and handle the product correctly.
The cautions given in this manual are related to this product. Refer to the robot controller user's manual for details on the cautions to be taken with the robot controller system using this product.
The safety precautions are ranked as "WARNING" and "CAUTION" in this manual.

⚠ **WARNING**
This indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ **CAUTION**
This indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury, or damage to the equipment.

Note that some items described as "CAUTION" may lead to serious results depending on the situation. In any case, important information that must be observed is explained.
Store this manual where it can be easily referred to, and make sure that it is delivered to the end user.

1. About SCARA-YRCX Studio

■ **What is SCARA-YRCX Studio?**

SCARA-YRCX Studio is operation support software for YRCX robot controllers. In addition to the functionality of previous software, it provides a user interface that is easier to use as well as being more powerful. In order to take full advantage of SCARA-YRCX Studio's functionality, be sure to read the contents of this manual.

■ **Compatible robot controllers**

SCARA-YRCX Studio supports the following OMRON multi-axis robot controllers.

• YRCX

■ **USB key**

A USB key is supplied to the SCARA-YRCX Studio to prevent robot operation mistakes. When this USB key is not connected to the PC, functions are limited as shown below.

Functions	When the USB key is not connected.
Connecting to the controller	Invalid
Saving the file data	Invalid
Emulator function	Valid
Real Time Trace	Emulator only
Cycletime Calculator	Starting only (No calculating)
Data Difference	Except data saving

2. Installing and uninstalling SCARA-YRCX Studio

In order to use SCARA-YRCX Studio, you must install SCARA-YRCX Studio on the PC. If an earlier version of SCARA-YRCX Studio is already installed, you can upgrade to the new version without uninstalling the previous version.

2.1 To install SCARA-YRCX Studio

The following Steps describe how to install SCARA-YRCX Studio in a PC running on Windows 7.

Step 1 *Exit all the currently-running programs on the PC.*

**Step 2** *Insert the setup disc into the CD-ROM drive of the PC.*

Step 3 *The setup program starts automatically.*
The launcher screen appears automatically.
If the setup program does not start automatically, follow the steps below to start it.

1. Click (Start)-(Computer).

2. Double-click the CD-ROM drive in which the setup disc is inserted.

3. Double-click (SCARA-YRCX Studio). (Depending on the PC settings, the icon name might be (SCARA-YRCX Studio.exe).)

Step 4 *Click [Next] at the [Welcome to the InstallShield Wizard for SCARA-YRCX Studio] screen.*
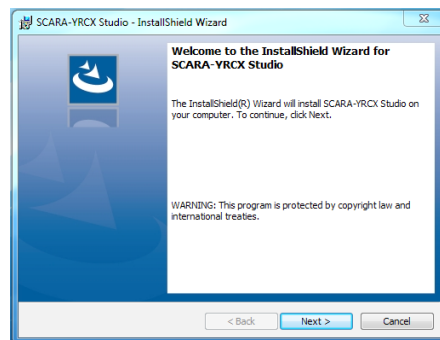
Step 5 *The [Customer Information] screen.*

Enter your user name and organization, and click (Next).
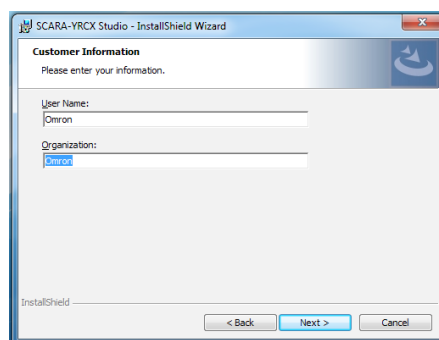
Step 6 *At the [Destination Folder] screen, specify the folder in which you want to install SCARA-YRCX Studio.*

By default, (C:\Program Files (x86)\OMRON Corporation\SCARA-YRCX Studio\) is selected.
To change the installation destination, click (Change) and specify the installation destination. When you have finished specifying the installation destination, click (Next).
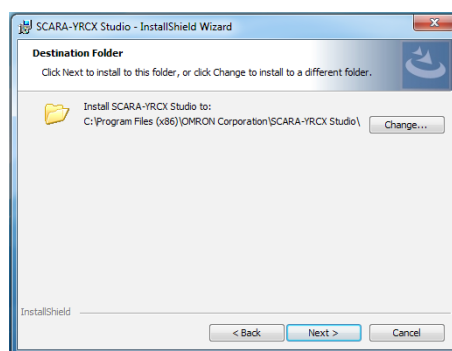
Step 7 *Installing begins by clicking [Install] on the screen.*
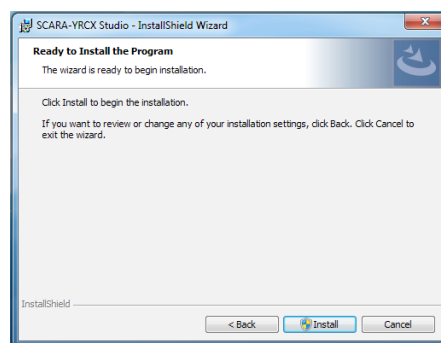
Step 8 *On the screen appears when installation is completed, click [Finish] to exit the wizard.*
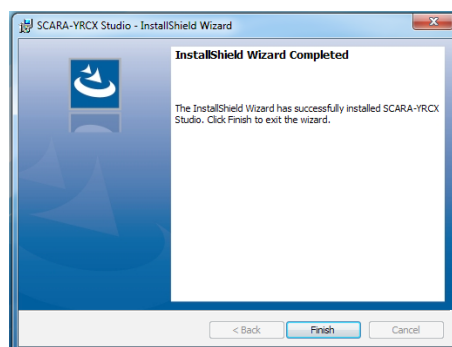
TIP

Depending on the PC settings, restarting is necessary.

2.2 To upgrade SCARA-YRCX Studio

If an earlier version of SCARA-YRCX Studio has been installed on the PC, you can upgrade to the new version. The following Steps describe how to upgrade in a PC running on Windows 7.

Step 1 *Exit all currently-running programs.*

**Step 2** *Insert the setup disc into the CD-ROM drive.*

Step 3 *The setup program starts.*
The setup program starts automatically. If not so, follow the steps below to start it.

1. Click (Start)-(Computer).

2. Double-click the CD-ROM drive in which the setup disc is installed.

3. Double-click (SCARA-YRCX Studio). (Depending on the PC settings, the icon name might be (SCARA-YRCX Studio.exe).)

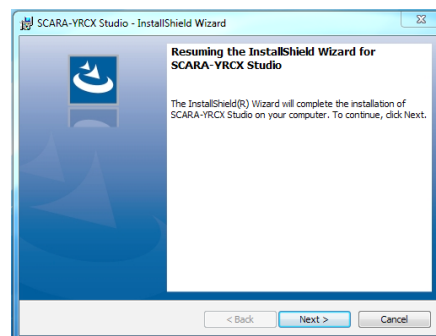**Step 4** *Upgrade SCARA-YRCX Studio.*
A message asks you whether to upgrade.
To execute the upgrade, click (Yes). If not, click (No) to exit the upgrade.
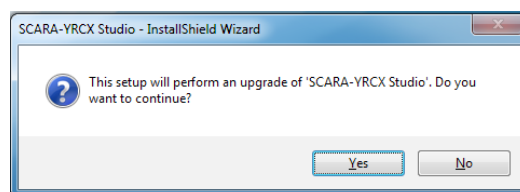
NOTE
- If the version of SCARA-YRCX Studio installed on the PC is later than that on the setup disc, you can't perform the upgrade. In this case, uninstall SCARA-YRCX Studio from the PC and then install it.
- If the version of SCARA-YRCX Studio installed on the PC is the same as that on the setup disc, the program maintenance screen appears. In the screen you can modify, repair, or remove SCARA-YRCX Studio.

Step 5 *At the screen shown at right, click [Next] to start the SCARA-YRCX Studio upgrade.*

Step 6 *When the upgrade is completed, the screen shown at right appears.*
Click (Finish) to exit the wizard.
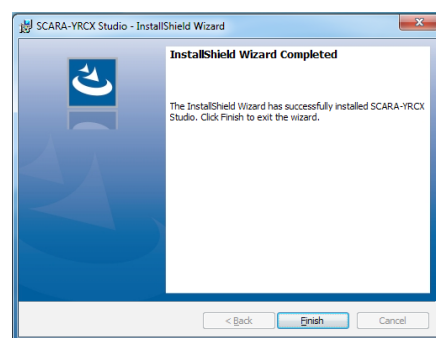
2.3   To uninstall SCARA-YRCX Studio

You can uninstall SCARA-YRCX Studio from your PC in either of the following two ways. The following Steps describe how to uninstall in a PC running on Windows 7.

1. Using [Uninstall SCARA-YRCX Studio]

Step 1   *Select [Uninstall SCARA-YRCX Studio].*
From the (Start) menu, click (All apps)-(SCARA-YRCX Studio)-(Uninstall SCARA-YRCX Studio).

Step 2   *Uninstall SCARA-YRCX Studio.*
At the uninstall confirmation message, click
(Yes).
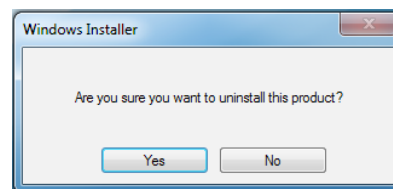
2. Using [Programs and Features]

Step 1   *Open the [Programs and Features] window.*
From the (Start) menu, click (Control Panel) and then click (Uninstall a Program).

TIP
If you've selected (Large Icons) or (Small Icons) as the view in Control Panel, click (Programs and Features).

Step 2   *Select the SCARA-YRCX Studio.*

Step 3   *Uninstall SCARA-YRCX Studio.*
Follow the on-screen instructions to uninstall the SCARA-YRCX Studio.

3. SCARA-YRCX Studio window
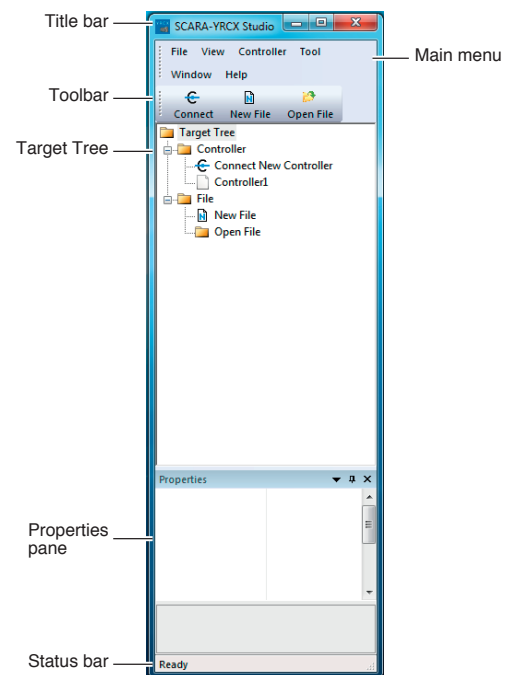
SCARA-YRCX Studio has the following two types of window. The following section describes each type.

3.1 SCARA-YRCX Studio window

When starting SCARA-YRCX Studio, the window shown at right appears. Connecting to the controller and administrating files are mainly performed on this window.

Title bar
Main menu
Toolbar
Target Tree
Properties pane
Status bar

■ **Description of the SCARA-YRCX Studio window**

Main menu

■ **File**

New File	Creates a new file.
Open File	Opens a file.
Open Alarm History File	Opens an alarm history file.
Open Warning History File	Opens a warning history file.
Open Project	Opens a project.
Save Project As Name	Saves the added controller and file settings as a project with the name that you specify.
Exit	Exits SCARA-YRCX Studio.

* For details on files, refer to "5. Offline operation."

■ **View**

Toolbar	Toolbar	Shows/hides the toolbar.
	Small Size Icons	Shows small icons on the toolbar.
	Medium Size Icons	Shows medium icons on the toolbar.
	Large Size Icons	Shows large icons on the toolbar.
	Show Text Labels	Shows/hides text on the toolbar.
Properties	Shows/hides the property pane.	
Status Bar	Shows/hides the status bar.	

NOTE
When you change the (Icon Size) or (Show Text Labels) setting for the toolbar, the setting also applies to the toolbar of the target window described later.

■ Controller

New Connect	Makes a new connection to a controller.
Connect	Connects to the controller that's selected in the target tree. This is unavailable if an unconnected controller is not selected.
Disconnect	Disconnects from the controller that's selected in the target tree. This is unavailable if a connected controller is not selected.
Connect All	Connects to all controllers that are added to the target tree.
Disconnect All	Disconnects from all controllers that added to the target tree.

■ Tool

Data Transfer	Opens the Data Transfer dialog box, allowing you to transfer data from the controller to the PC or vice versa.
Save Alarm History	Saves an alarm history file.
Save Warning History	Saves a warning history file.
Data difference	Opens the Data Difference dialog box, allowing you to compare data between the controllers and files.
Cycletime Calculator	Opens the Cycletime Calculator dialog box, allowing you to calculate the robot cycle time.
Option	Opens the Options dialog box, allowing you to specify options.

■ Window

| Tile Windows	Displays the currently-shown target windows without overlapping.
Cascade Windows	Displays the currently-shown target windows overlapping.

■ Help

Help	Displays the Help window.
About SCARA-YRCX Studio	Shows the software version of SCARA-YRCX Studio.

Toolbar

The toolbar contains [Connect], [New File], and [Open File] buttons. These buttons execute the operations "connect to a controller," "create a new file," and "open a file" respectively.

Target Tree

You can make a new connection to a controller, create a new file, or open a file from the target tree as well. The target tree shows controllers you added as new connections and files that you opened. By double-clicking a controller or file that's shown in the target tree, you can connect to the selected controller or open the file.

An added controller

An added file
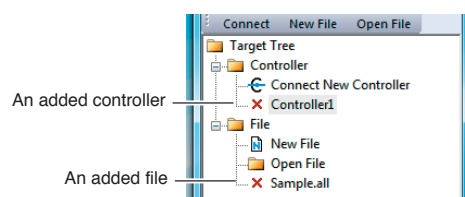
Properties

In Properties pane you can view detailed information about the controller or file that is selected in the target tree, and edit some of its settings.
*Properties cannot be edited while connecting to the controller selected on the target tree or opening the selected files.

Status bar

The status bar shows explanation of the functions that the mouse is pointing and the status of special keys.
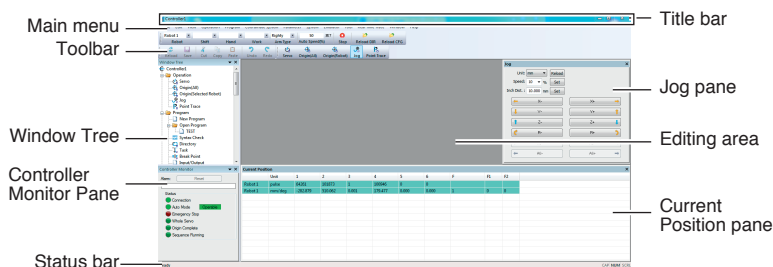
3.2   Target window

The target window appears when connecting to a controller (Online), creating a new file and opening the existing file (Offline).
During online, referring or controlling robot status such as axes jog movements, operating robots or I/O monitoring are performed. During offline, various data is edited.

Target window (Online)

Connect to the controller to display the target window.
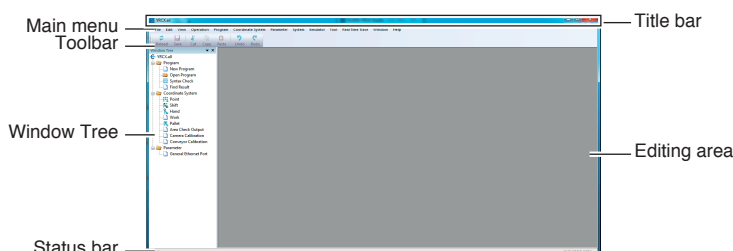

TIP

For details on how to connect to a controller, refer to "4.1 Connecting to a controller."

Target window (Offline)

Create a new file or open an existing file to display the target window.

TIP

For details on how to create a new file or open a file, refer to "5.1 Creating a new data file" and "5.2 Opening a data file".

■ Description of the target window

Title bar

The title bar shows the controller name that was specified at the time of connection.

Main menu

The target window (controller) provides the following menus. Some are limited during offline, shown in each table below as "✔" and "–".

■ **File**

✔ : Selectable and editable when offline
– : Not selectable nor editable or hidden when offline

Print	Prints the editor items that support printing. Printing is supported for the [Program], [Point], [Shift], [Hand], [Work], [Pallet], and parameter editors.	✔
Print Preview	Shows a print preview.	✔
Print Setup	Shows the print setup screen.	✔
File Export	Exports the current controller and data being edited to a file.	✔
Exit	Exits the target window.	✔

NOTE

If you execute the File Export command while communication with the controller is disconnected, the data that is exported to the file will be the data that was obtained from the controller before disconnection.

■ Edit

✔ : Selectable and editable when offline
– : Not selectable nor editable or hidden when offline

Reload	Reloads data from the controller, and updates the editor.	✔
Save	Saves the edited content to the controller.	✔
Cut	Cuts the data currently selected in the editor.	✔
Copy	Copies the data currently selected in the editor.	✔
Paste	Pastes the copied data to the editor.	✔
Undo	Returns the edited data to its previous state with canceling the operation executed just before.	✔
Redo	Re-executes the operation that was executed just before.	✔

■ View

✔ : Selectable and editable when offline
– : Not selectable nor editable or hidden when offline

Toolbar	Controller Toolbar	Shows/hides the controller toolbar.	–
	Connection Toolbar	Shows/hides the connection toolbar.	–
	Operation Toolbar	Shows/hides the operation toolbar.	–
	Program Toolbar	Shows/hides the program toolbar.	–
	Coordinate System Toolbar	Shows/hides the coordinate system toolbar.	–
	Parameter Toolbar	Shows/hides the parameter toolbar.	–
	System Toolbar	Shows/hides the system toolbar.	–
	Data Transfer Toolbar	Shows/hides the data transfer toolbar.	–
	Monitor Toolbar	Shows/hides the monitor toolbar.	–
	Edit Toolbar	Shows/hides the edit toolbar.	✔
	Emulator Toolbar	Shows/hides the emulator toolbar.	–
	Small Size Icons	Shows small icons on the toolbar.	✔
	Medium Size Icons	Shows medium icons on the toolbar.	✔
	Large Size Icons	Shows large icons on the toolbar.	✔
	Show Text Labels	Shows/hides text on the toolbar.	✔
Window Tree	Shows/hides the Window Tree.		✔
Status Bar	Shows/hides the status bar.		✔
Controller Monitor	Shows/hides the Controller Monitor pane.		–
Current Position	Shows/hides the Current Position pane.		–
DI	Shows/hides the DI pane.		–
DO	Shows/hides the DO pane.		–
MO	Shows/hides the MO pane.		–
LO	Shows/hides the LO pane.		–
TO	Shows/hides the TO pane.		–
SI	Shows/hides the SI pane.		–
SO	Shows/hides the SO pane.		–
SIW	Shows/hides the SIW pane.		–
SOW	Shows/hides the SOW pane.		–
Variable	Shows/hides the variable pane.		–

NOTE

When you change the toolbar (Icon Size) or (Show Text) setting, the setting also applies to the toolbars of the SCARA-YRCX Studio window and of other target windows.

■ **Operation**

Servo	Opens the Servo dialog box, allowing you to turn the motor power and servos on/off.	–
Origin (All)	Opens the Origin (All) dialog box, allowing you to perform return-to-origin of all the robots when several robots are controlled.	–
Origin (Selected Robot)	Opens the Origin (Selected Robot) dialog box, allowing you to perform return-to-origin od robot by robot.	–
Jog	Shows/hides the Jog pane.	–
Point Trace	Opens the Point Trace dialog box, allowing you to perform point trace.	–

■ **Program**

New Program	Opens a new program editor.	✔
Syntax Check	Shows/hides the Syntax Check pane.	✔
Directory	Shows the program directory dialog box, allowing you to edit the program's attributes.	–
Task	Shows/hides the Task pane.	–
Break Point	Shows/hides the Break Point pane.	–
Input/Output	Shows/hides the Input/Output pane.	–
Find Result	Shows/hides the Find Result pane.	✔
Sequence Execution Flag	Shows the Sequence Execution Flag dialog box.	–

■ **Coordinate System**

Point	Opens the Point editor.	✔
Standard Coordinate	Opens the Standard Coordinate setup wizard.	–
Shift	Opens the Shift editor.	✔
Hand	Opens the Hand editor.	✔
Work	Opens the Work editor.	✔
Pallet	Opens the Pallet editor.	✔
Area Check Output	Opens the Area Check Output editor.	✔
Conveyor Calibration *	Opens the Conveyor Calibration editor.	✔

* These parameters are shown when the unit is actually connected during online and when the data exists during offline.

■ **Parameter**

Controller	Opens the Controller Parameter editor.	–
Robot	Opens the Robot Parameter editor.	–
Axis	Opens the Axis Parameter editor.	–
Driver	Opens the Driver Parameter editor.	–
IO	Opens the IO Parameter editor.	–
Option Board Enable	Opens the Option Board Enable Parameter editor.	–
Option Board Parameter	Opens the Option Board Parameter editor.	–
General Ethernet Port	Opens the General Ethernet Port editor.	✔

■ System

✔ : Selectable and editable when offline
− : Not selectable nor editable or hidden when offline

Property	Shows the controller version and other information.	−
Check	Displays any alarms that have occurred.	−
Alarm History	Shows the history of any alarms that have occurred.	−
Warning History	Shows the history of any warnings that have occurred.	−
Generation	Assigns drivers and specifies the generation of robots and axes.	−
Initialize	Executes initialization.	−
Communication Setting	Edits the settings.	−
Access Level	Changes the access level.	−

■ Tool

✔ : Selectable and editable when offline
− : Not selectable nor editable or hidden when offline

Controller Backup	Transfers data from the controller to the PC.	−
Controller Restore	Transfers data from the PC to the controller.	−
Data Difference	Compares data between the controllers and files.	✔
Cycletime Calculator	Calculates the cycletime.	✔
Option	Specifies options.	✔

■ Window

✔ : Selectable and editable when offline
− : Not selectable nor editable or hidden when offline

Cascade	Displays the currently-running editors overlapping in the edit area.	✔
Tile Horizontally	Displays the currently-running editors tiled horizontally in the edit area.	✔
Tile Vertically	Displays the currently-running editors tiled vertically in the edit area.	✔
Dock All Panes	Docks all panes that are currently floating.	✔

■ Help

✔ : Selectable and editable when offline
− : Not selectable nor editable or hidden when offline

Help	Displays the Help screen.	✔
About SCARA-YRCX Studio	Displays the software version of SCARA-YRCX Studio.	✔

Toolbar

The toolbar contains buttons for executing frequently-used menu commands. You can use a command in the main menu to switch the toolbar between visible and hidden.

Window Tree

The Window Tree shows the functions organized in a tree structure.

Controller monitor pane

The status of the controller is shown here in real time.

Jog pane

Here you can move the axes that are connected to the robot.

Current position pane

The current position of the axes connected to the robot are shown here.

Editing area

This area shows the editor and allows you to edit.

Status bar

The status bar shows explanation of the functions that the mouse is pointing and the status of special keys

4. Online robot operation

SCARA-YRCX Studio allows you to remotely control robots connected to the controller and monitor their operating status from the PC. The following sections describe how to connect controllers to SCARA-YRCX Studio as well as how to control the online robot operation.

⚠️ **WARNING**
When operating a robot, make sure the robot movement range is clear and be prepared to press the emergency stop button if necessary.

4.1 Connecting to a controller

This section describes how to connect the computer to a robot controller.

Step 1 *Connect the PC to the robot controller.*
Using a dedicated communication cable (RS-232C) or an Ethernet cable (category 5 or higher), connect the PC to the robot controller. For details on how to make connections, refer to the manual of the robot controller.

Step 2 *Start SCARA-YRCX Studio.*
The SCARA-YRCX Studio window opens.

Step 3 *On the [Controller] menu, click [New Connect].*
The (Connect New Controller) dialog box appears.

TIP
You can get the same result by clicking (Connect) on the toolbar, or by double-clicking (Target Tree)-(Controller)-(Connect New Controller).
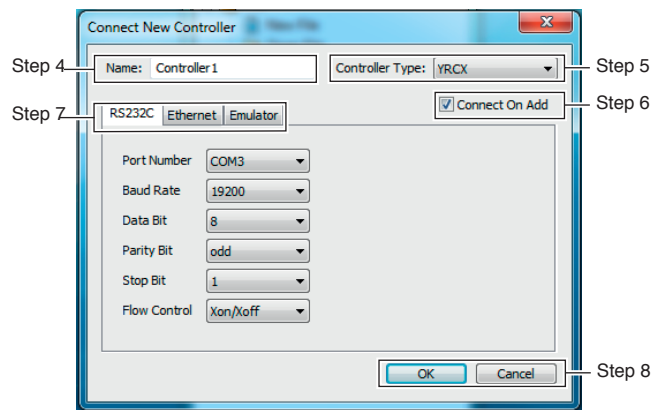
Step 4 *Enter the display name.*
Enter the name to display in the target tree and in the title bar of the target window.

TIP
The name you specify here is not registered to the robot controller. It is used only to identify that controller within SCARA-YRCX Studio.

Step 5 *Choose the controller type.*
From the list box, choose the robot controller that you're connecting.

Step 6 *Select the [Connect On Add] option.*
If the (Connect On Add) check box is selected, the controller will be connected after it is added to the target tree.
If this is not selected, the controller will only be added to the target tree, and will not be connected. This is selected by default.

Step 7 *Make communication settings.*
To connect to the controller via RS-232C or Ethernet, select the targeting tab and the communication settings from the list boxes. Make sure that the communication settings are the same as that of the controller.
To connect via emulator, refer to the Help of SCARA-YRCX Studio for details.
For details on how to verify the communication settings and IP address of the robot controller, refer to the manual of the robot controller.
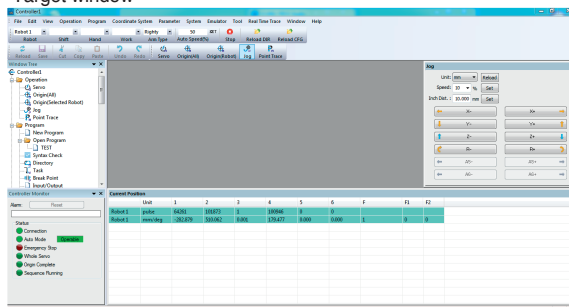
Step 8　*Connect to the controller.*

Click (OK), and the controller is added to the target tree.
If the (Connect On Add) setting is selected, the PC connects to the controller. If the connection is successful, the target window appears.
If the connection is unsuccessful, an error message "Connection error" or "Failed to connect" appears. Check the communication settings and the state of the communication cable.

Target window

■ **To disconnect the controller**

You can disconnect from the controller in any of the following three ways.

- In the Target Tree of the SCARA-YRCX Studio window, select the controller that you want to disconnect, and on the main menu click [Controller]-[Disconnect].

- In the Target Tree of the SCARA-YRCX Studio window, select the controller to disconnect, and right-click, to select [Disconnect].

- Close the target window.
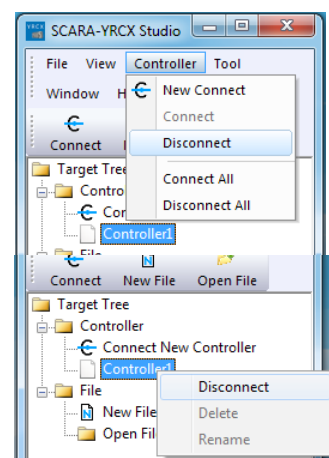
NOTE
If the edited content has not been saved, a message will ask whether to save.

■ **If a connection error occurs while communicating with the robot controller**

If due to a broken cable or other reason, a connection error occurs while communicating with the robot controller, the [Connection Error] message will appear and the [Connect] toolbar button will be available. In the Controller Monitor pane, the "Connection" lamp also goes dark.
If a connection error occurs, check the connection state of the communication cable, the communication settings of the PC or of the robot controller. Click [Connect] to connect to the controller.

4.2　Servo on

In order to return the robot to origin position or operate it, the power and servo must be turned on.

Step 1　*Make sure that the PC and robot controller are connected.*

Make sure that the (Connect) button is unavailable in the toolbar. If (Connect) is available, check the connection state of the communication cable and settings, and click (Connect) to connect to the controller.
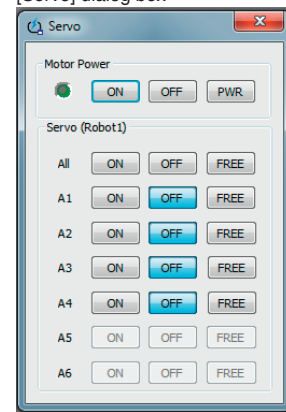
Step 2   *Open the [Servo] dialog box.*
Use any of the following methods to open
the dialog box.
• On the main menu, click (Operation)-
(Servo).
• Double-click (Servo) in the Window Tree.

[Servo] dialog box

Step 3   *Turn on the motor power.*
Click Motor Power (ON) or (PWR). The motor
power turns on, and the motor power lamp
is lit.

■ **The difference between Motor Power [ON] and [PWR]**

When clicking [ON], the execution confirmation message will appear. By executing, the motor power turns on and simultaneously all axes of the robot will be in the servo-on status. When clicking [PWR], although the motor power turns on, the robot's axes will not be in the servo-on status.

Step 4   *Turn the servo of each axis on.*

⚠ CAUTION
When clicking servo (FREE), the servo turns free, and the axis mechanical brake and the dynamic brake are released. As the mechanical brake is released, the robot that operates vertically may drop. Ensure safety before executing this operation.

Servo (ON), (OFF), and (FREE) buttons are provided for All axes and for individual axis A1 to A6. These buttons are enabled for each axis that is connected to the robot.

■ **About Servo [ON]**

When clicking Servo [ON] of each axis, the corresponding axis changes to servo-on status. When clicking Servo [ON] of [All] axes, all the axes connecting to the robot change to servo-on status.

■ **About Servo [OFF]**

When clicking Servo [OFF], the corresponding axis changes to the servo-off status.

■ **About Servo [FREE]**

When clicking Servo [FREE], a conforming message window appears. To put the servo-free status, click [OK].

Servo free confirmation message
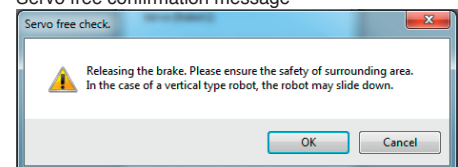
📝 NOTE
To change the servo status of a different robot, change the robot selection in the controller toolbar.
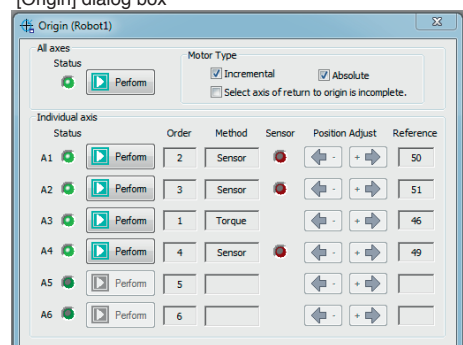
4.3   Return-to-origin

Return-to-origin of the robot must be performed for acquiring and using the robot position. The following section describes how to return the robot to origin position.

Step 1   *Open the [Origin] dialog box.*
Use either of the following methods to
open the dialog box.
• On the main menu, click (Operation)-
(Origin).
• In the Window Tree, double-click (Origin).

[Origin] dialog box

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Step 2 *Press [Perform] for the axis to perform return-to-origin.*

When clicking (Perform) for the axis, it will begin the return-to-origin operation. During return-to-origin execution, (Perform) button changes to (Stop) button. To interrupt the return-to-origin operation, press (Stop).When return-to-origin is completed, the status lamp is lit.

■ In the case of Mark method

The Position Adjust buttons are valid. Press the Position Adjust [-] or [+] buttons to move to a position where absolute reset is possible, and then press [Perform].

■ Performing return-to-origin for all axes

To perform return-to-origin for all axes, press [Perform] for All axes.
Use the following three check boxes to select the motor type(s).

- Incremental
  Perform return-to-origin for all the incremental axes.
- Absolute
  Perform return-to-origin for all the absolute axes.
- Select axis of return to origin is incomplete
  Perform return-to-origin only for the axes that are origin incomplete.
  If [Select axis of return to origin is incomplete] is selected, the [Incremental] and [Absolute] settings are invalid.

■ About the Status lamps

These are unlit if return-to-origin is incomplete for the corresponding axis, and are lit if return-to-origin is complete. For "All axes," the Status lamp is lit when return-to-origin is complete for all axes connected to the robot; it is unlit if there is even one axis for which return-to-origin is incomplete.

NOTE
- To perform return-to-origin for another robot, change the robot selection in the controller toolbar.
- The return-to-origin order can be changed by editing the robot parameter settings.
- The return-to-origin method can be changed by editing the axis parameters. For details, refer to "7.6 Editing parameters."

4.4   Moving the robot in inching or jog mode

This section describes how to move the robot in inching or jog mode.

Step 1 *Open the Jog pane.*

If the Jog pane is not shown in the target window, use any of the following methods to display it.
- On the main menu, click (Operation)-(Jog).
- On the operation toolbar, press (Jog).
- In the Window Tree, double-click (Jog).

TIP
If the Jog pane is not seen, it might be displayed outside the screen. In the main menu, try executing (Window)-(Dock All Panes).

Jog pane

Jog button
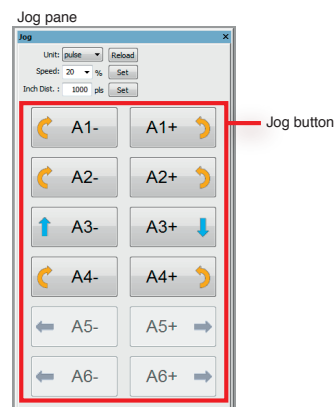
Step 2 *Choose the unit from the list box.*

One of three units; (pulse), (mm)* , or (tool)* , can be chosen for your situation.

*"Std. coord. doesn't exist" message will be shown when connecting to the emulator and selecting SCARA robot. On the main menu, click (Coordinate System) - (Standard Coordinate) and set the standard coordinate on the displayed wizard.

Step 3 *Set the speed of inching movement or jog movement.*

Speed can be set by either choosing 1, 2, 5, 10, 20, 50, or 100 from the list or manually entering a value between 1 and 100 into the box.
If the value differs from the controller's setting, the list box's background color turns red.
Click the (Set) button located at the right of the (Speed) list box to apply the setting to the controller.

Step 4 *Set the inching movement distance (Inch Dist.).*

Inching distance can be set by entering directly into the box either number between 1 and 10000 in "pulse" unit or between 0.001 and 10.000 in "mm" or "tool" unit. If the value differs from the controller's setting, the edit box's background color turns red.
Click the (Set) button located at the right of the (Inch Dist.) edit box to apply the setting to the controller.

If you click the (Reload) button, the speed and inching movement distance values are returned to the values of the controller.

Step 5 *Operate the robot.*

⚠️ **WARNING**
The robot will operate by pressing the jog buttons. Do not enter the robot movement range; doing so is hazardous.

Each time clicking the jog button, the robot moves a distance set as the inching moving distance in the respective direction.
If you hold down a jog button, the robot keeps moving as long as you continue holding down it. When releasing the button, the robot slows down and stops. The robot also slows down and stops when it reaches the soft limit in the respective directions.

4.5 Moving the robot to a specified point (Point Trace)

This section explains how to move the robot to a point that is set beforehand.

Step 1 *Open the Point Trace dialog box.*
Use any of the following methods to open the dialog box.
• On the main menu, click (Operation)-(Point Trace).
• In the (Operation Toolbar), click (Point Trace).
• In the Window Tree, double-click (Point Trace).
• In the Point editor, click (Trace).

[Point Trace] dialog box
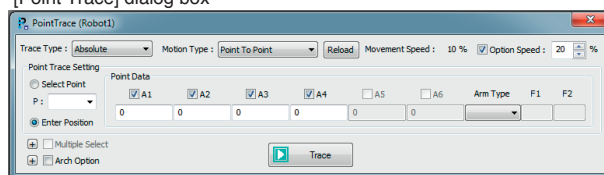
Step 2 *Select the trace type and the motion type.*
The trace type can be specified as (Absolute), (Incremental), or (Tool Coordinate). The motion type can be specified as (Point To Point), (Linear Interpolation), or (Circular Interpolation). (Circular Interpolation can be selected only if the trace type is "Absolute.")

Step 3 *Set the trace option speed.*
The trace operation speed is the product of the movement speed and the option speed.
If the option speed is not selected, the robot moves at the movement speed.

TIP
The movement speed setting can be viewed and edited in (Auto Speed (%)) of the control toolbar.

Step 4 *Select a point, or select position data entry.*
If you selected (Select Point) in the point trace settings, select the point number to execute point trace.
When selecting (Enter Position), you can directly input a movement destination for the robot into the point data.

Step 5 *Click [Trace] button to begin trace movement.*

⚠️ **WARNING**
The robot will operate by pressing the jog buttons. Do not enter the robot movement range; doing so is hazardous.

During trace movement (Trace) button changes to (Stop) button. To stop the movement while it is in progress, click (Stop) button.

■ Selecting multiple points and executing trace

Select the [Multiple Select] check box, add points to the multiple select list, and click [Multiple Trace)]; trace movement occurs through the selected points.
If [CONT] check box is selected, the option is enabled. For details on CONT, refer to the programming manual of the robot controller.
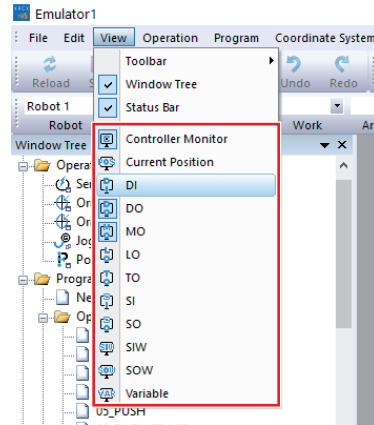
■ Arch option

If the trace type is [Absolute] and the motion type is [Point To Point], the arch option can be specified.
For details on the arch option, refer to the programming manual of the robot controller.
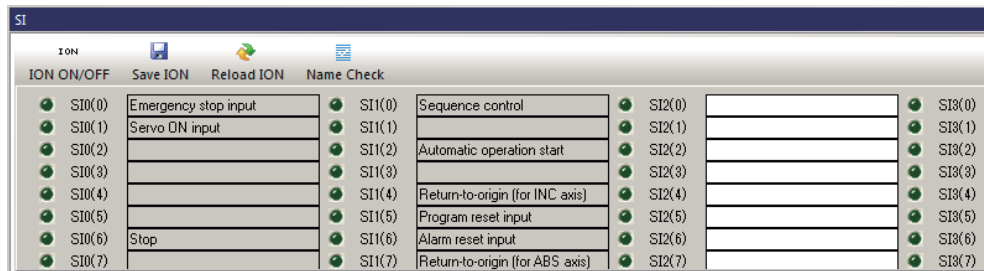
4.6   Monitor function

Follow the procedures below to specify / refer to the current conditions of the internal controller.

Step 1   *Select the item to monitor.*

Step 2   *The pane to monitor will be shown.*
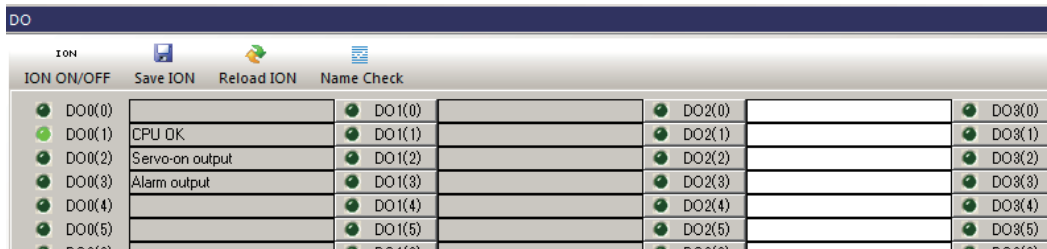

Step 3   *Each output signal is turned ON/OFF by clicking each item on the [DO/MO/LO/ TO/SO] screen.*
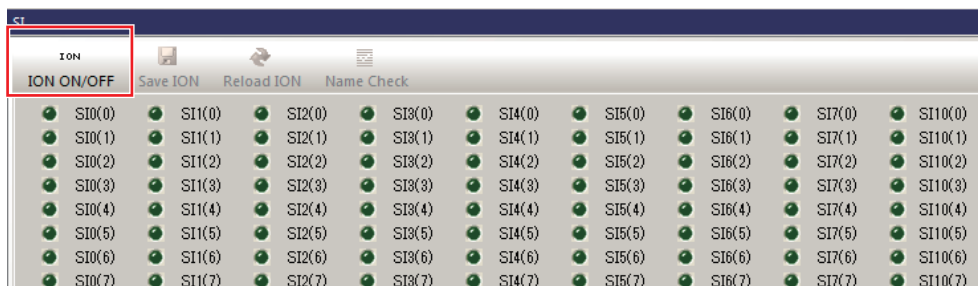
NOTE
It is not applicable to operate dedicated outputs (such as return-to-origin).

Step 4   *IO (Input/Output) name can be switched by clicking "ION ON/OFF" button for I/ O with the function. (Refer to 4.6.1 "IO name function".)*

4.6.1　IO name function

Each signal for DI/DO and SI/SO can be named. (IO name function)
This name can be used in a program or referred to with the programming box.
Procedures of editing and saving the name are described in this section.

> NOTE
> Refer to YRCX series Operator's Manual Chapter 6 "3.I/O status display" for referring to names with programming box.

Step 1　*Enter a name in any empty box of DI/DO and SI/SO.*
The box will be changed to red.
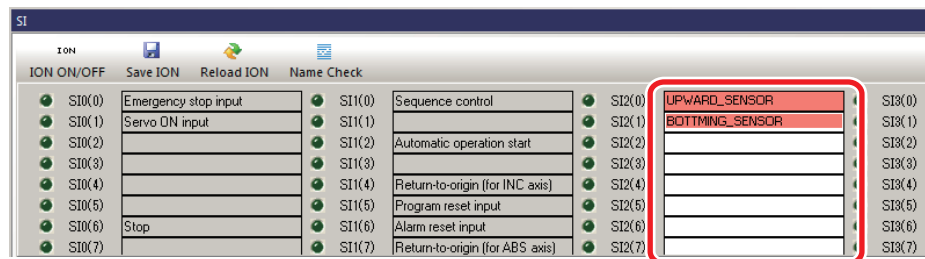
> ⚠ CAUTION
> **The IO names have not been transferred to the controller yet in this state.**

> NOTE
> For IO names;
> • Available characters: Alphanumeric and _ (under bar)
> • Number of characters: Maximum 16

Step 2　*Confirm that no error is occurring in the pane by "Syntax Check" of "Name Check".*
If an error occurs, re-enter the name while referring to the NOTE of Step 1.
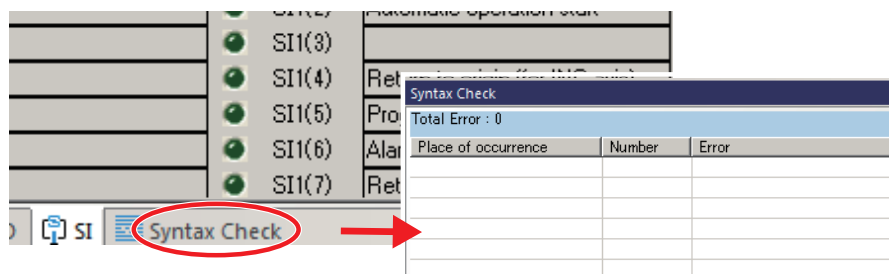
Step 3　*Click "Save ION" button.*
The box will return to white once the IO name is transferred to the controller.
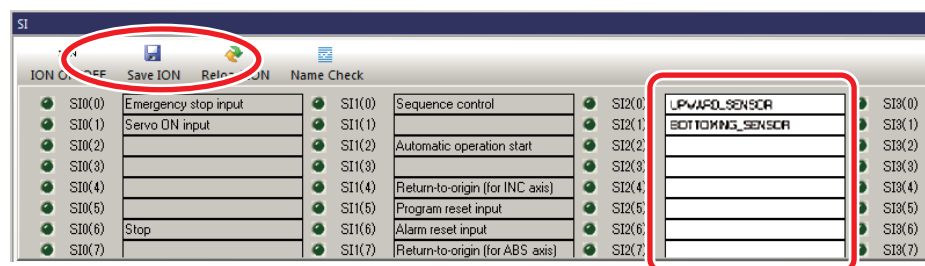
> NOTE
> Click "Reload ION" button to read out the IO name saved in the controller.

The massage window on the right will be shown if "Save ION" is clicked without executing "Syntax Check". Select Yes/No.
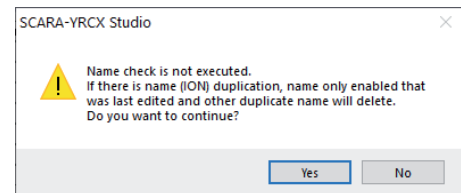
5. Offline operation

While offline, you can edit a controller data file obtained via data transfer or edit a newly created data file. Data edited during offline can be sent to the controller.

5.1 Creating a new data file

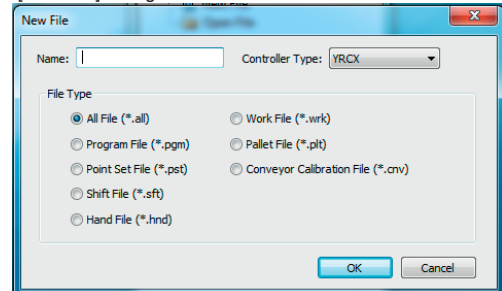This section explains how to create a new offline data file.

Step 1 **On the [File] menu, click [New File].**
The (New File) dialog box appears.

[New File] dialog box

> TIP
> The same result is gotten by clicking (New File) on the toolbar, or by double-clicking (Target Tree)-(File)-(New File).

Step 2 **Enter a name.**
Enter the name to be saved.

Step 3 **Select the controller type.**
Select the robot controller from the list box.

Step 4 **Select the file type.**
The editable content differs according to the file type that you select. In the "All File", any type of files can be edited.

Step 5 **Open the offline target window.**
When clicking (OK), the file is added to the Target Tree, and the offline target window appears.

Offline target window
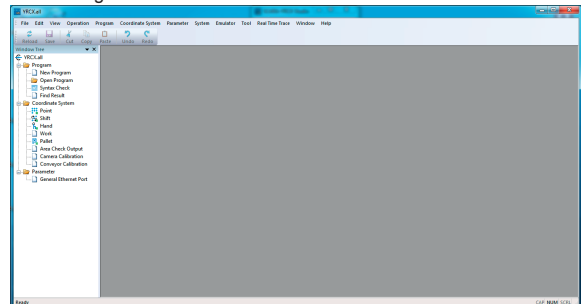
> NOTE
> The file is not created at opening the target window. After editing the data, the file is actually created by saving from the (Save As) dialog box. The edited content is saved in the file that is created. If closing the target window without creating the file, the corresponding file is deleted from the Target Tree of the SCARA-YRCX Studio window.
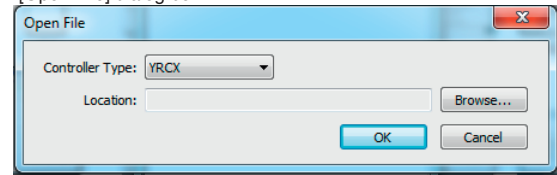
5.2   Opening a data file

This section explains how to open a data file that was saved by transferring controller data or by saving a newly created data file.

Step 1   *On the [File] menu, click [Open File].*
The (Open File) dialog box appears.

[Open File] dialog box

> **TIP**
> The same result is gotten by clicking (Open File) on the toolbar, or by double-clicking (Target Tree)-(File)-(Open File).

Step 2   *Select the controller type.*
Select the robot controller from the list box.

Step 3   *Select the file that you want to open.*
Click (Browse) and select the file to open.
The following table shows the file extensions that you can open and the content that you can edit.

Editable items for each file type   ✔: Editable   −: Non-editable

Extension	Program	Point	Shift	Hand	Work	Pallet	Area Check Output	Parameter	General Ethernet Port
.all *1	✔	✔	✔	✔	✔	✔	✔	✔	✔
.all *2	✔	✔	✔	✔	✔	✔	✔	−	✔
.pgm	✔	−	−	−	−	−	−	−	−
.pst	−	✔	−	−	−	−	−	−	−
.pnt	−	✔	−	−	−	−	−	−	−
.pnm	−	✔	−	−	−	−	−	−	−
.pcm	−	✔	−	−	−	−	−	−	−
.prm	−	−	−	−	−	−	−	✔	−
.sft	−	−	✔	−	−	−	−	−	−
.hnd	−	−	−	✔	−	−	−	−	−
.plt	−	−	−	−	−	✔	−	−	−

*1: An .all file obtained by transferring controller data
*2: An .all file created as a new file and saved

Step 4   *Open the offline target window.*
When clicking (OK) in the (Open File) dialog box, the file is added to the Target Tree and the offline target window opens. Edit the data in the target window and save it into the file.
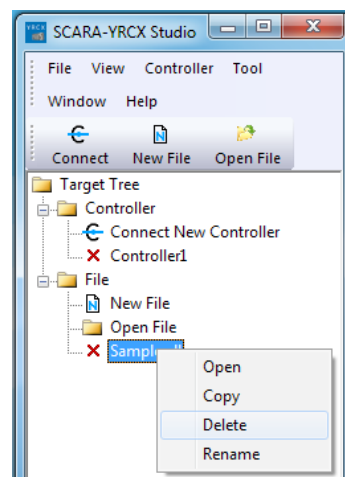
Offline target window
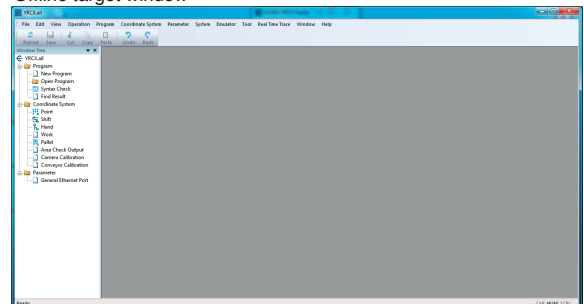
5.3   Deleting a file from the Target Tree

This section describes how to delete a file from the Target Tree of the SCARA-YRCX Studio window.

Step 1   ***In the Target Tree, select the file to delete.***
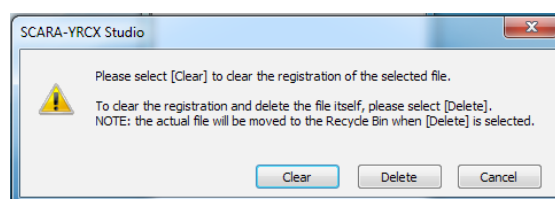In the SCARA-YRCX Studio window, select the file to delete.

Step 2   ***Select "delete".***
Select the file and right-click to delete.

Step 3   ***Confirmation message appears.***
A message confirming that you want to delete the data file will appear.

The following actions are in response to the delete confirmation message.

Clear	To clear the registration of the selected file.
Delete	To clear the registration and delete the file itself (the file will be moved to the Recycle Bin).
Cancel	No action.

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Offline operation

6. Data transfer

SCARA-YRCX Studio includes function for transferring data to any desired location.
Controller data can be saved into PC and the saved data can then be restored to the controller.

6.1 Transferring data from controller to PC

This section explains how to transfer controller data to the PC and save it as a file in the location you specify.
To transfer data from a currently-connected controller to the PC, execute this procedure from the target window of the corresponding controller. To transfer data from an unconnected controller to the PC, execute this procedure from the SCARA-YRCX Studio window.

■ **Transferring data from a connected controller to the PC**

Step 1 *Open the [Controller Backup] dialog box.*
Use any of the following methods to open the (Controller Backup) dialog box.
• On the main menu of the target window, click (Tool)- (Controller Backup).
• In the data transfer toolbar of the target window, click (Backup).

[Controller Backup] dialog box
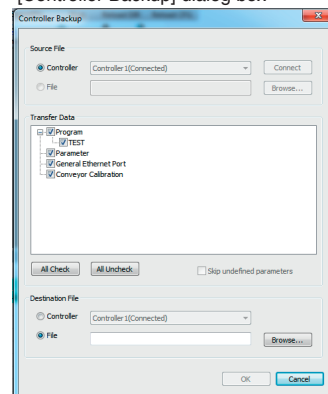
Step 2 *Select the data that you want to transfer to the PC.*
In the (Transfer Data) list, select the check box for each type of data to transfer to the PC. (All items are selected by default.)

TIP ────────────────────
The transfer data list shows only the items for which data is saved in the controller. Items for which no data is saved are not shown in the transfer data list.
────────────────────
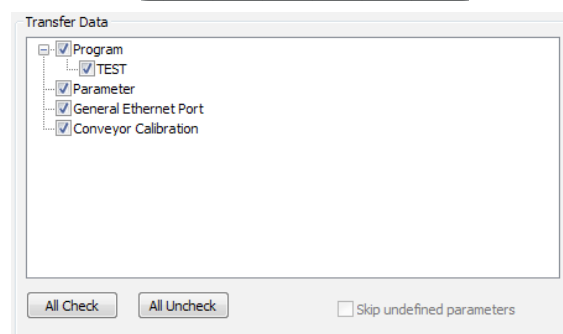
Step 3 *Specify the transfer destination.*
Specify the destination to which the controller data will be transferred.
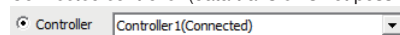As the transfer destination you can choose either (Controller) or (File).

■ **Transfer destination: Controller**
Choose this if you want to transfer data to another controller. Data can be transferred only to an unconnected controller. For a currently-connected controller, [OK] is unavailable and the data cannot be transferred.
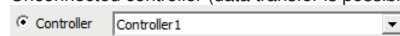
Unconnected controller (data transfer is possible)

Connected controller (data transfer is not possible)

■ **Transfer destination: File**
Choose this for transferring.
When you click [Browse], the [Save As] dialog box appears. Select the transfer-destination folder, and enter a file name for the destination file in the [File name] box.

[Save as] dialog box

NOTE ────────────────────
The file name extension (*.all) is automatically added to the file that is transferred from the controller. There is no need to select the file name extension from the (Save as type) dropdown list in the (Save As) dialog box.
────────────────────
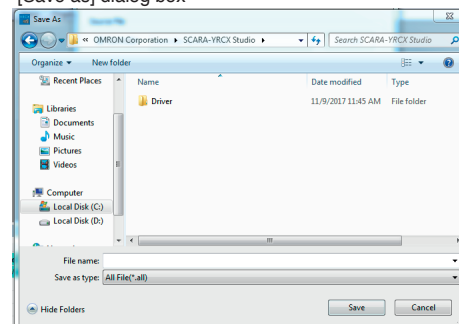
Step 4 *Start transferring the controller data.*
In the (Controller Backup) dialog box, click (OK). Data transfer begins.
When transfer is complete, a transfer completion message appears. Click (OK).

Data transfer

■ Transferring data from an unconnected controller to the PC

Step 1 *Open the [Data Transfer] dialog box.*
On the main menu of the SCARA-YRCX Studio window, click (Tool)-(Data Transfer) to open the (Data Transfer) dialog box.

[Data Transfer] dialog box
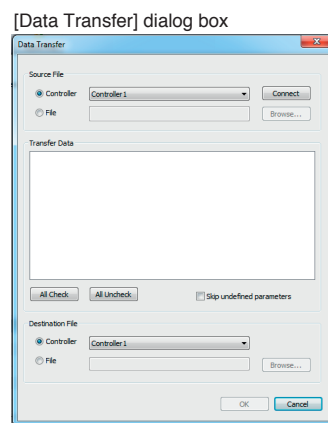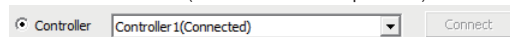

Step 2 *Select the transfer-source controller.*
In (Controller) of (Source File), select the controller from which you want to transfer data to the PC.
Only unconnected controllers can be selected as the transfer source. The (Connect) button is invalid for controllers that are currently connected.

Unconnected controller (data transfer is possible)

Connected controller (data transfer is not possible)

Step 3 *Get a list of the transfer data.*
Click the (Connect) button located beside the transfer-source controller. A list of the transfer data is obtained from the controller and displayed in the (Transfer Data) area.

If connection with the controller was unsuccessful, the error message "Error: Timeout" or "Failed to connect" appears. If one of these appears, check the communication settings and the connection state of the cable.
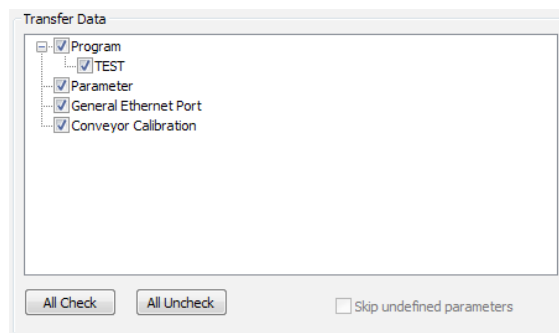
Step 4 *Select the data to transfer to the PC.*
In the (Transfer Data) list, select the check box for each type of data to transfer to the PC.

TIP
The transfer data list shows only the items for which data is saved in the controller. Items for which no data is saved are not shown in the transfer data list.

Step 5 *Specify the transfer destination for the controller data.*
As the transfer destination, you can choose (Controller) or (File).
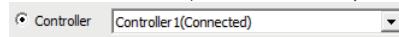
■ Transfer destination: Controller

Choose this to transfer data to another controller. Data can be transferred only to an unconnected controller. For a currently-connected controller, [OK] is invalid and the data cannot be transferred.

Unconnected controller (data transfer is possible)

Connected controller (data transfer is not possible)


■ Transfer destination: File

Choose this to transfer data to a file. When you click [Browse], the [Save As] dialog box appears. Select the transfer-destination folder, and enter a file name for the destination file in the [File name] box.

[Save as] dialog box

NOTE
The file name extension (*.all) is automatically added to the file that is transferred from the controller. There is no need to select the file name extension from the (Save as type) dropdown list in the (Save As) dialog box.

6

Data transfer

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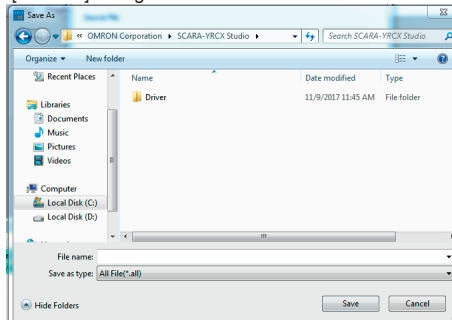
Step 6   *Start transferring the controller data.*

In the (Controller Backup) dialog box, click (OK). Data transfer begins, and the following message appears.
When transfer is complete, a transfer completion message appears. Click (OK).

6.2   Transferring data from PC to controller

This section explains how to transfer data from another controller or from a file on the PC to a controller. To transfer data to a currently-connected controller, execute this procedure from the target window of that controller. To transfer data to an unconnected controller, execute this procedure from the SCARA-YRCX Studio window.

⚠ **CAUTION**

If you transferred data that requires the power to be cycled, the transfer completion message shown at right appears. Click (OK), and turn the controller's power off and then on again.
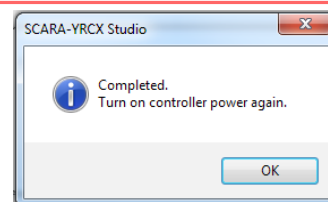
■ **Transferring data to a connected controller**

Step 1   *Open the [Controller Restore] dialog box.*

Use any of the following methods to open the (Controller Restore) dialog box.
• On the main menu of the target window, click (Tool)-(Controller Restore).
• In the data transfer toolbar of the target window, click (Restore).

[Controller Restore] dialog box
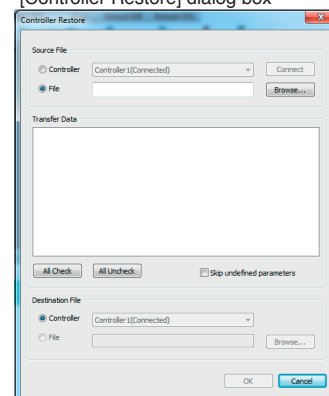
Step 2   *Specify the transfer source.*

Specify the source from which the data is transferred.
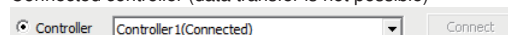As the transfer source you can choose either (Controller) or (File).

■ **Transfer source: Controller**

Choose this to transfer data from another controller.
Only an unconnected controller can transfer data.
A currently-connected controller cannot transfer data.
Select an unconnected controller, and press [Connect] to obtain a list of the transfer data.

Unconnected controller (data transfer is possible)

Connected controller (data transfer is not possible)

■ **Transfer source: File**

Choose this to transfer data from a file on the PC.
When you click [Browse], the [Open] dialog box appears. Select the transfer-source file.
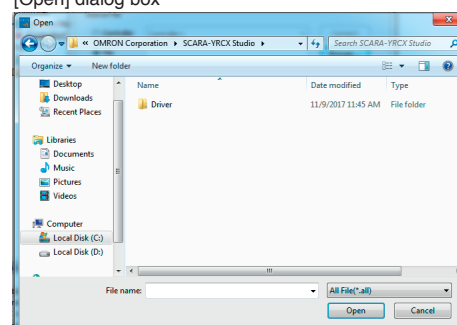
[Open] dialog box

📝 NOTE

Select the file name extension of the transfer-source file from the dropdown list located beside the file name.
The following file name extensions can be selected: (*.all), (*.pgm), (*.pst), (*.pnt), (*.pnm), (*.pcm), (*.prm), (*.sft), (*.hnd), (*.wrk), (*.plt), (*.clb), and (*.cnv).

Step 3 *Select the data to transfer to the controller.*

If the transfer-source is a controller, a list appears in (Transfer Data) at pressing (Connect). If the transfer-source is a file, the list appears when opening the file. In the (Transfer Data) list, select the check box for each type of data to transfer to the controller.
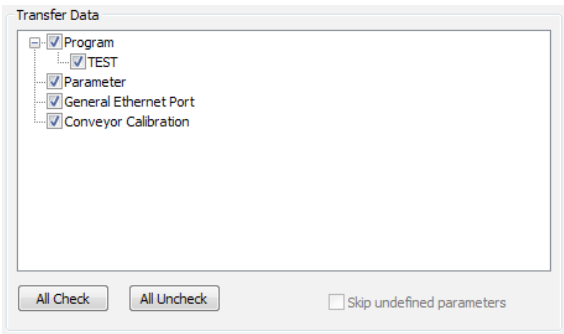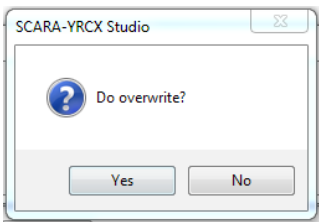
The transfer data list shows only the items for which data is saved in the controller. Items for which no data is saved are not shown in the transfer data list.

Step 4 *Start transferring the data to the controller.*

In the (Controller Restore) dialog box, click (OK). The message "Do overwrite?" appears.
Click (Yes) to start transferring. If you decide not to transfer, click (No).

During data transfer, the message shown at right appears.
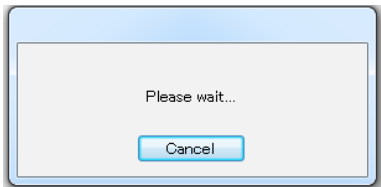
NOTE
To cancel the transfer, click (Cancel).

CAUTION
Even if you cancel the transfer, the data that had been transferred to the controller up to the moment you clicked (Cancel) will not return to the state prior to transfer.

When transfer is complete, a transfer completion message appears. Click (OK).

■ **Transferring data to an unconnected controller**

Step 1 *Open the [Data Transfer] dialog box.*

On the main menu of the SCARA-YRCX Studio window, click (Tool)-(Data Transfer) to open the (Data Transfer) dialog box.
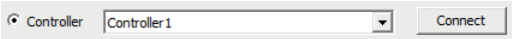
[Data Transfer] dialog box
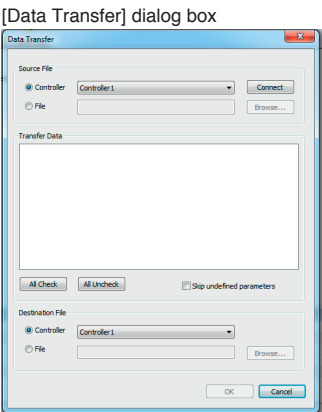
Step 2 *Specify the source from which the data is transferred.*

As the transfer source you can choose either (Controller) or (File).
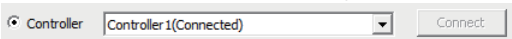
■ **Transfer source: Controller**

Choose this to transfer data from another controller. Only an unconnected controller can transfer data. Data of a currently-connected controller cannot be transferred. Select an unconnected controller, and press [Connect] to obtain a list of the transfer data.

Unconnected controller (data transfer is possible)

Connected controller (data transfer is not possible)

7

Data transfer

■ **Transfer source: File**

Choose this to transfer data from a file on the PC. When you click [Browse], the [Open] dialog box appears. Select the transfer-source file.

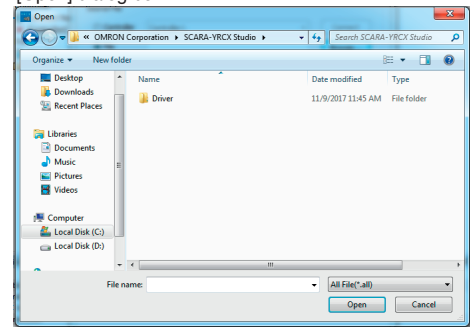[Open] dialog box

![Open dialog box screenshot]

NOTE

Select the file name extension of the transfer-source file from the dropdown list located beside the file name.

The following file name extensions can be selected: (*.all), (*.pgm), (*.pst), (*.pnt), (*.pnm), (*.pcm), (*.prm), (*.sft), (*.hnd), (*.wrk), (*.plt), (*.clb), and (*.cnv).

Step 3 *Select the data to transfer to the controller.*

If the transfer-source is a controller, a list appears in (Transfer Data) when you press (Connect). If the transfer-source is a file, the list appears when you open the file. In the (Transfer Data) list, select the check box for each type of data to transfer to the controller.

![Transfer Data screenshot]

TIP
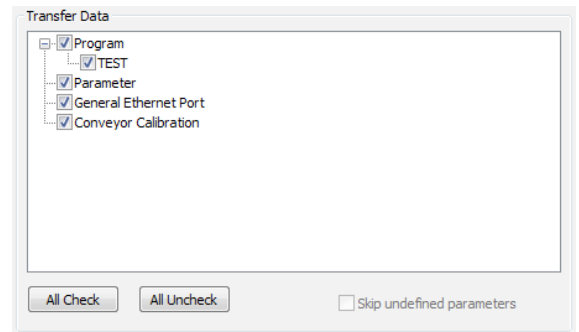
The transfer data list shows only the items for which data is saved in the controller. Items for which no data is saved are not shown in the transfer data list.

Step 4 *Specify the transfer destination.*

In the controller dropdown list, choose an unconnected controller. If you choose a currently-connected controller, the (OK) button of the (Controller Restore) dialog box is unavailable, and data transfer is not possible.

Unconnected controller (data transfer is possible)

![Controller dropdown screenshot]

Connected controller (data transfer is not possible)

![Controller dropdown screenshot]

Step 5 *Start transferring the data to the controller.*

In the (Controller Restore) dialog box, click (OK). When connection to the controller succeeds, the message "Do overwrite?" appears. Click (Yes) to start transferring. If you decide not to transfer, click (No).

During data transfer, the message shown at right appears.

![SCARA-YRCX Studio dialog: Do overwrite?]

![Please wait dialog]
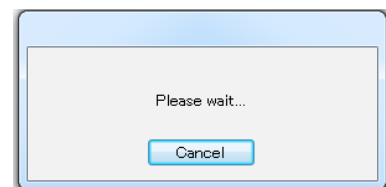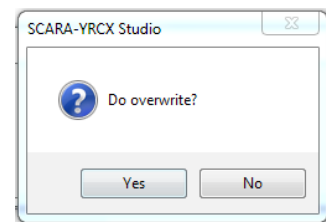
NOTE

If connection to the controller fails, the error message (Failed to connect) appears. If this appears, check the communication settings and the connection state of the cable.

⚠ **CAUTION**

Even if you cancel the transfer, the data that had been transferred to the controller up to the moment you clicked (Cancel) will not return to the state prior to transfer.

When transfer is completed, a message indicates completion. Click (OK).

7

Data transfer

7. Editing controller data and operating

The robot controller's various data (such as program, point, parameter, shift, hand, work, pallet, area output check, conveyor calibration, and general Ethernet port data) can be edited directly on SCARA-YRCX Studio.

NOTE
The condition in this Chapter: the PC is connected to the controller (Online state).
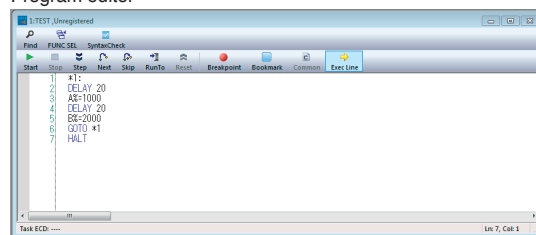
7.1 Creating a new program

Step 1 *Open a program editor.*
Use any of the following methods to open a new program editor.
• On the main menu of the target window, click (Program)-(New Program).
• On the (Program Toolbar) of the target window, click (New PGM.).
• In the Window Tree of the target window, double-click (Program)-(New Program).

Program editor

Step 2 *Enter a program into the program editor.*
Create a program using the OMRON robot language. For details on the OMRON robot language, refer to the programming manual of the controller you're using.

Step 3 *Save the program.*
Save the program into the controller directly by either way of the folloing; click (Edit)-(Save) on the main menu of the target window, or click (Save) in the edit toolbar.
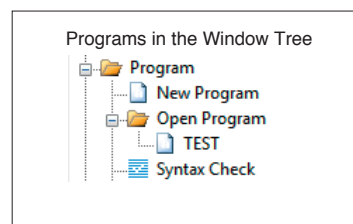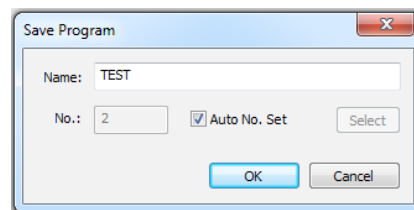
NOTE
If the edit toolbar is not shown in the target window, check whether the main menu (View)-(Toolbar)-(Edit Toolbar) option has a check mark. If not, click (Edit Toolbar).
If it already has a check mark, click (Window)-(Dock All Panes).

The (Save Program) dialog box appears when creating a new program or saving a program. Enter a name for the program. The program name can contain single-byte alphanumeric characters and the _ (underscore) character.

If (Auto No. Set) is on, the lowest unused program is automatically assigned. To set a specific program number, clear the (Auto No. Set) check box and click (Select) to select the desired program number.
When clicking (OK), the program is saved, and the saved program is added to (Open Program) in the Window Tree.

Programs in the Window Tree

NOTE
Up to 100 programs can be saved in the controller. If you attempt to save when there are already 100 programs saved in the controller, a "program number over" error appears.

7.2   Editing an existing program

This section explains how to edit a program that was previously saved in the controller.

**Step 1**   *Open the desired program.*
In the target window, select a program located under (Window Tree)-(Program)-(Open Program), and double-click it.

Step 2   *Enter a program into the program editor.*
Create a program using the OMRON robot language. For details on the OMRON robot language, refer to the programming manual of the controller you're using.

Step 3   *Save the program.*
Save the program edited using the program editor. Click (Edit)-(Save) in the main menu of the target window, or click (Save) in the edit toolbar. When saving is complete, the "*" at the end of the program editor's title bar disappears.

Unsaved	Saved
1:TEST ,Unregistered *	1:TEST ,Unregistere "*" disappears
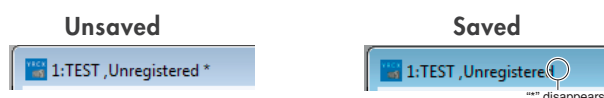
7.3   Copying or deleting a program

This section explains how to copy or delete a program existing in the controller.

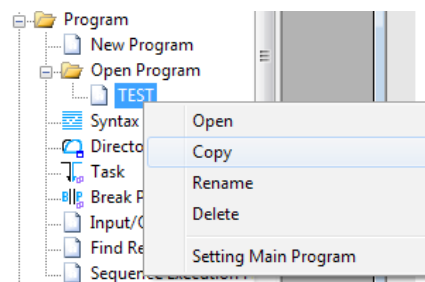**Step 1**   *Select the program to copy or delete.*
In the target window, select the program in (Window Tree)-(Program)-(Open Program).

Step 2   *Choose [Delete] or [Copy].*
Select a program, right-click to open menu.Click (Copy) to show the (Save Program) dialog box. Enter a program name and click (OK) to copy the program. Click (Delete) to delete the selected program.
* Click (Rename) to rename the selected program, or click (Setting Main Program) to specify the selected program as the main program.

Program
  New Program
  Open Program
      TEST
  Syntax   Open
  Directo   Copy
  Task   Rename
  Break P   Delete
  Input/C
  Find Re   Setting Main Program
  Sequence Execution

7.4   Executing a program

This section explains how to execute a program existing in the controller.

Step 1   *Make sure that the robot has returned to origin position.*
In the controller monitor, verify that return-to-origin is complete (the lamp lit).
For details on return-to-origin, refer to "4.3 Return-to-origin."

NOTE
All axes connected to the robot must have completed return-to-origin.

Step 2   *In the program editor, click [Syntax Check].*
In the program editor, click (Syntax Check) to verify that there are no syntax errors. If there are any syntax errors, the syntax check pane shows the name of the program and the line number in which the syntax error was found, and the content of the error. Note the error content and correct the program.
For details on the OMRON robot language, refer to the programming manual of the controller you're using. For details on errors, refer to the users manual of the controller.

(Syntax Check)

Result of syntax check (no error is found)

Syntax Check			×
Total Error : 0			
Place of occurrence	Number	Error	

Result of syntax check (error is found)

Syntax Check			×
Total Error : 1			
Place of occurrence	Number	Error	
Program[1:TEST]	2	5.201:Syntax error	

Step 3 *Execute the program.*

In the program editor, click (Start) to execute the program.
To stop the program, click (Stop).

(Start) **Start** (Stop) **Stop**
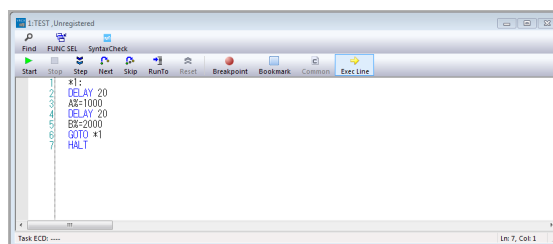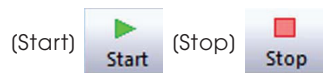
■ Other buttons

- **[Find]**
  Opens the [Find and Replace] window. A search string and find or replace the corresponding string can be set.

- **[FUNC SEL]**
  Opens the [Function Selector] window. In the function selector, you can select a function from the list and click [Insert] to insert the selected function at the cursor location of the program editor.

- **[Step]**
  Each time you click this, the command statement at the highlighted line number is executed. If the command statement is a subroutine or a sub-procedure, the first line of that subroutine or sub-procedure is executed.

- **[Next]**
  Each time you click this, the command statement at the highlighted line number is executed. If the command statement is a subroutine or a sub-procedure, the entire subroutine or sub-procedure is executed.

- **[Skip]**
  Each time you click this, you will advance to the next line without executing the highlighted line number.

- **[Run To]**
  Executes up to the cursor location in the program editor.

- **[Breakpoint]**
  Sets a break point at the line where the cursor is located in the program editor. If a break point is already specified there, the break point is cleared.

- **[Bookmark]**
  Sets a bookmark at the line where the cursor is located in the program editor. If a bookmark is already specified, the bookmark is cleared.
  You can set multiple bookmarks and press the [F2] key to move to the next bookmark or the [Shift+F2] key to move to the previous bookmark.

- **[Exec Line]**
  Enables/disables the line display that is executed.
  If the execution line is enabled, the line is highlighted when the program runs.

- **[Common]**
  Switches the display to the common program. When the common program is displayed, pressing [Common] switches the display to the original program.
  [Common] is available if [Exec Line] is unavailable and a program named [COMMON] is also saved.
  For details about the common program, refer to the programming manual of the controller you're using.

CAUTION

The highlighted execution line display might be later than actual. Consider it an approximate indication of which command statement within the program is currently being executed.

7.5　Editing point data

Use the Point editor to view and edit the controller's point data, point names, and point comments.

Step 1　*Open the Point editor.*

Use any of the following methods to open the Point editor.
- On the main menu of the target window, click (Coordinate System)-(Point).
- In the Window Tree, double-click (Coordinate System)-(Point).
- In the (Coordinate System Toolbar), click (Point).

Point editor

Step 2　*Edit the point data, point names, and point comments.*

In the Point editor you can enter point data, point names, and point comments for points between P0 and P29999.

(Arm Type) can be specified only for a SCARA robot.

By clicking (Teach (mm)) or (Teach (pls)) you can also register (teach) the current position of the robot to the selecting point.

Enter the point name in the (Name) column. You can enter up to 16 characters, using single-byte alphanumeric characters and the _ (underscore) character.

Point names must be unique. You can press (Name Check) to check whether any point names are duplicates.

Enter the point comment in the (Comment) column. You can enter up to 16 bytes, and there is no limitation on the types of characters that can be input. For details on points, refer to the manual of the robot controller. When you edit a point, the edited items turn red.

	Name	A1	A2	A3	A4	A5	A6	Arm Type	F1	F2	Comment
P0	Sample01	-175.796	414.707	0.037	62.353	0.000	0.000	Lefty	0	0	Origin Position
P1	Sample02	-141.883	483.074	0.037	66.600	0.000	0.000	Lefty	0	0	Current position
P2	Sample03	200.000	500.000	0.000	150.000	1.000	1.000	None	1	1	Target Position

NOTE

Execute return-to-origin of the robot before performing teaching input with (Teach (mm)) or (Teach (pls)).

Step 3　*Save the edited data.*

When you have finished editing the point data, point names, and point comments, click (Edit)-(Save) on the main menu of the target window, or click (Save) in the edit toolbar. When saving is complete, the edited item color returns.

7.6　Editing parameters

Use the Parameter editor to view and edit parameters.

Step 1　*Open the Parameter editor.*

Use any of the following methods to open the Parameter editor.
- On the main menu of the target window, click (Parameter) and choose the parameter to edit.
- In the Window Tree under (Parameter), double-click the parameter to edit.
- In the (Parameter Toolbar), click the button of the parameter to edit.

Parameter [Controller] editor

Step 2　*Edit the parameters.*

Edit the parameters in the parameter editor.
For items that require to enter a specific
setting, a drop-down list appears. For
details, refer to the manual of the robot
controller. When editing a parameter, the
edited items turn red.

Incremental Mode control	VALID
MOVEI/DRIVEI start pos.	KEEP
MOVET start pos.	KEEP

Step 3　*Save the edited parameters.*

When you have finished editing the parameters, click (Edit)-(Save) on the main menu of the target
window, or click (Save) in the edit toolbar. When saving is complete, the edited item color returns.

7.7　Editing shift data

Use the Shift editor to view and edit the shift data within the controller.

Step 1　*Open the Shift editor.*

Use any of the following methods to open
the Shift editor.
• On the main menu of the target window,
click (Coordinate System)-(Shift).
• In the Window Tree, double-click
(Coordinate System)-(Shift).
• In the (Coordinate System Toolbar), click
(Shift).

Shift editor

Step 2　*Edit the shift data.*

Use the Shift editor to edit the shift data. In
addition to the shift coordinates (between
S0 and S39), you can also specify a shift
coordinate range for each shift coordinate
to restrict the robot operating area to a
desired range. The (SPx) value limits the
operating range in the plus (+) direction
for each axis, and the (SMx) value limits it
in the minus (-) direction. For details on shift
data, refer to the manual of the robot
controller. When editing shift data, the
edited items turn red.

Step 3　*Save the edited data.*

When you have finished editing the shift data, click (Edit)-(Save) on the main menu of the target
window, or click (Save) on the Edit toolbar. When saving is complete, the edited item color returns.

7.8　Editing hand data

Use the Hand editor to view and edit the hand data in the controller.

Step 1　*Open the Hand editor.*

Use any of the following methods to open
the Hand editor.
• On the main menu of the target window,
click (Coordinate System)-(Hand).
• In the Window Tree, double-click
(Coordinate System)-(Hand).
• In the (Coordinate System Toolbar), click
(Hand).

Hand editor

Step 2　*Edit the hand data.*

Use the Hand editor to edit the hand data.
Hand data can be edited between H0
and H31. For details on hand data, refer to
the manual of the robot controller. When
editing hand data, the edited items turn red.

Step 3　*Save the edited data.*

When you have finished editing the hand data, click (Edit)-(Save) on the main menu of the target
window, or click (Save) on the Edit toolbar. When saving is complete, the edited item color returns.

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7.9　Editing work data

Use the Work editor to view and edit the area check output data.

Step 1　*Open the Work editor.*
Use any of the following methods to open the Work editor.
• On the main menu of the target window, click (Coordinate System)-(Work).
• In the Window Tree, double-click (Coordinate System)-(Work).
• In the (Coordinate System Toolbar), click (Work).
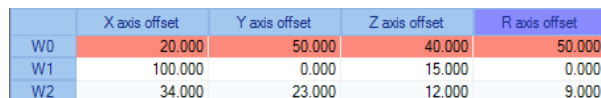
Work editor

Work	X axis offset	Y axis offset	Z axis offset	R axis offset
W0	10.000	10.000	20.000	20.000
W1	100.000	0.000	15.000	0.000
W2	34.000	23.000	12.000	9.000
W3				
W4				
W5				
W6				

Step 2　*Edit the work data.*
Use the Work editor to edit the work data. Set the (X, Y, Z, and R-axis (rotation)) offset from the robot tip or hand tip.
When editing work data, the edited items turn red.

	X axis offset	Y axis offset	Z axis offset	R axis offset
W0	20.000	50.000	40.000	50.000
W1	100.000	0.000	15.000	0.000
W2	34.000	23.000	12.000	9.000

Step 3　*Save the edited data.*
When you have finished editing the work data, click (Edit)-(Save) on the main menu of the target window, or click (Save) on the Edit toolbar. When saving is complete, the edited item color returns.
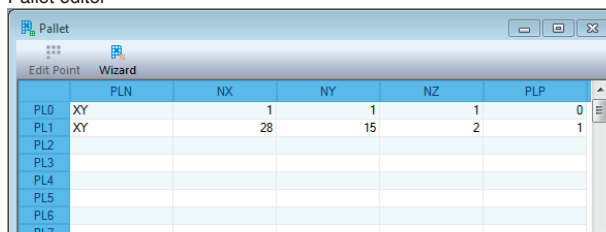
7.10　Editing pallet data

Use the Pallet editor to view and edit the pallet data in the controller.

Step 1　*Open the Pallet editor.*
Use any of the following methods to open the Pallet editor.
• On the main menu of the target window, click (Coordinate System)-(Pallet).
• In the Window Tree, double-click (Coordinate System)-(Pallet).
• In the (Coordinate System Toolbar), click (Pallet).

Pallet editor

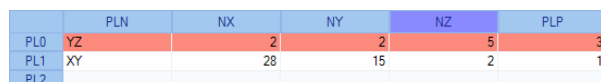| Pallet	PLN	NX	NY	NZ	PLP
Edit Point	Wizard				
PL0	XY	1	1	1	0
PL1	XY	28	15	2	1
PL2					
PL3					
PL4					
PL5					
PL6					
PL7					

Step 2　*Edit the pallet data.*
Use the Pallet editor to edit the pallet data. Pallet data can be edited between PL0 and PL39. For details on pallet data, refer to the manual of the robot controller.
When you click (Edit Point), the Point editor opens with the point number specified by PLP selected.
If the Point editor is already open, you will move to the point with the point number specified by PLP.
When editing pallet data, the edited items turn red.

	PLN	NX	NY	NZ	PLP
PL0	YZ	2	2	5	3
PL1	XY	28	15	2	1
PL2					

Step 3　*Save the edited data.*
When you have finished editing the pallet data, click (Edit)-(Save) on the main menu of the target window, or click (Save) on the Edit toolbar. When saving is complete, the edited item color returns.

7

Editing controller data and operating

7.11 Editing area check output data

Use the Area Check Output editor to view and edit the area check output data.

Step 1 ***Open the Area Check Output editor.***

Use any of the following methods to open the Area Check Output editor.
• On the main menu of the target window, click (Coordinate System)-(Area Check Output).
• In the Window Tree, double-click (Coordinate System)-(Area Check Output).
• In the (Coordinate System Toolbar), click (Area Check Output).

Area Check Output editor

Step 2 ***Edit the area check output data.***

Use the Area Check Output editor to edit the area check output data which can be edited between AC0 and AC31. For details on area check output data, refer to the manual of the robot controller.
When editing area check output data, the edited items turn red.

Step 3 ***Save the edited data.***

When you have finished editing the area check output data, click (Edit)-(Save) on the main menu of the target window, or click (Save) on the Edit toolbar. When saving is complete, the edited item color returns.

7.12 Editing general Ethernet port data

Use the General Ethernet Port editor to view and edit general Ethernet port data.

TIP

For details on general Ethernet ports, refer to the manual of the robot controller.

Step 1 ***Open the General Ethernet Port editor.***

Use any of the following methods to open the General Ethernet Port editor.
• On the main menu of the target window, click (Parameter)-(General Ethernet Port).
• In the Window Tree, double-click (Parameter)-(General Ethernet Port).
• In the (Parameter Toolbar), click (General . Ethernet Port).

General Ethernet Port editor

Step 2 ***Edit the general Ethernet port data.***

Use the General Ethernet Port editor to edit the general Ethernet port data which can be edited between GP0 and GP7. When editing general Ethernet port data, the edited items turn red.

Step 3 ***Save the edited data.***

When you have finished editing the general Ethernet port data, click (Edit)-(Save) on the main menu of the target window, or click (Save) on the Edit toolbar. When saving is complete, the item color returns.

7.13　Editing conveyor calibration data

Use the Conveyor Calibration editor to view and edit Conveyor Calibration data.

Step 1　*Open the Conveyor Calibration editor.*

Use any of the following methods to open the Conveyor Calibration editor.
• On the main menu of the target window, click (Coordinate System)-(Conveyor Calibration).
• In the Window Tree, double-click (Coordinate System)-(Conveyor Calibration).
• In the (Coordinate System Toolbar), click (Conveyor Calibration).

Conveyor Calibration editor

Step 2　*Edit the conveyor calibration data.*

Use the Conveyor Calibration editor to edit the conveyor calibration data. For details, refer to the Tracking System manual. When editing conveyor calibration data, the edited items turn red.
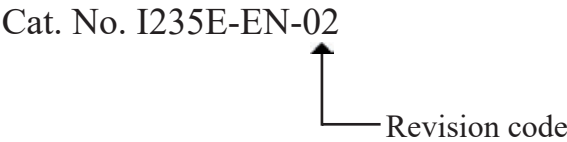

Step 3　*Save the edited data.*

When you have finished editing the conveyor calibration data, click (Edit)-(Save) on the main menu of the target window, or click (Save) on the Edit toolbar. When saving is complete, the item color returns.

Revision history

A manual revision code appears as a suffix to the catalog number on the front cover manual.

Cat. No. I235E-EN-02

└──Revision code

The following table outlines the changes made to the manual during each revision.

Revision code	Date	Description

OMRON