

# MRC Studio

## Trial version

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# Introduction

## About trial version



You can experience the operability of MRC Studio without the controller MRC01.

### Caution

- Some features and behavior are different from the product version.
- The saved data file cannot be used in the product version.
- Communication and operation with the controller MRC01 is not possible.

## Available features (Parameter)

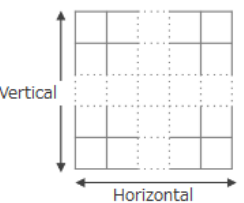
\* Parameters are reflected after executing **Data writing.**

Parameter group	Program/direct-data operation		
Basic setting	9	End-effector1 push-motion operation setting	Enable
Operation setting	10	Push current [%]	50.0
<b>Program/direct-data operation</b>	11	End-effector2 push-motion operation setting	Enable
JOG/ZHOME operation	12	Push current [%]	50.0
Pallet setting	13	Return-to-origin operation target coordinates selection	XYZ RxRyRz
I/O setting	14	Return-to-origin operation operation mode	Linear
Protective function setting	15	Return-to-origin operation speed [mm/s]	10.000
Communication_IF	16	Return-to-origin operation acceleration/deceleration [mm/s^2]	1,200.000
Robot setting	17	Circular center position Radius error tolerance [mm]	5.000

## Program/direct-data operation

“Return-to-origin operation” and “Circular center position radius error tolerance” are reflected in the robot operation.

Parameter setting

Parameter group	Pallet4	
Basic setting		
Operation setting		
<b>Pallet setting</b>	<p><b>Number of cells</b></p> <p>Vertical x Horizontal : <input type="text" value="0"/> × <input type="text" value="0"/></p> <p><input type="checkbox"/> Set the number of cells less than a number of "vertical x horizontal"</p> <p>Number of cells : <input type="text" value="0"/></p> 	
	<p><b>Cell position of pallet end (relative position from the start position S)</b></p> <p>Horizontal : X <input type="text" value="0.000"/> mm Y <input type="text" value="0.000"/> mm</p> <p>Vertical : X <input type="text" value="0.000"/> mm Y <input type="text" value="0.000"/> mm</p> <p><small>Input the relative position with reference to the start position S</small></p>	

## Pallet settings

You can set the pallet information for Pallet 1 to 6. It can be used in combination with the pallet command of the operation program.

## Available features (Parameter)

\* Parameters are reflected after executing **Data writing.**

Parameter group	Position limit		
Basic setting	1	TCP position limit operation setting	Stop with alarm
Operation setting	2	TCP position limit target coordinate system	User coordinate system
Pallet setting	3	TCP position limit X+ [mm]	1,000.000
I/O setting	4	TCP position limit X- [mm]	-1,000.000
Protective function setting	5	TCP position limit Y+ [mm]	1,000.000
	6	TCP position limit Y- [mm]	-1,000.000
	7	TCP position limit Z+ [mm]	1,000.000
	8	TCP position limit Z- [mm]	-1,000.000
AREA signal output / no entry area	9	Axis position limit operation setting	Stop with alarm
	10	Axis position limit Axis1+ [mm or deg]	1,000.000

### Position limit

TCP position limit and axis position limit are reflected in the robot motion.

\*Even if the operation setting is set to “Stop with alarm”, the alarm will not occur.

Parameter group	AREA signal output / no entry area		
Basic setting	1	User-defined area0 operation setting	AREA0 output
Operation setting	2	User-defined area0 target coordinate system	User coordinate system
Pallet setting	3	User-defined area0 target Coordinates	XYZ
I/O setting	4	User-defined area0 X+ [mm]	0.000
Protective function setting	5	User-defined area0 X- [mm]	0.000
	6	User-defined area0 Y+ [mm]	0.000
	7	User-defined area0 Y- [mm]	0.000
	8	User-defined area0 Z+ [mm]	0.000
AREA signal output / no entry area	9	User-defined area0 Z- [mm]	0.000
	10	User-defined area1 operation setting	AREA1 output
	11	User-defined area1 target coordinate system	User coordinate system

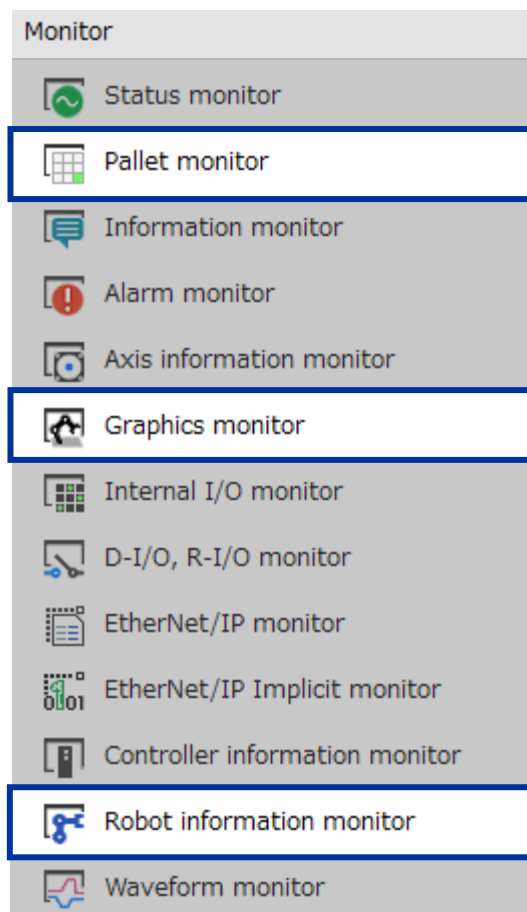
### AREA signal output/no entry area

If the operation setting is set to include “no entry”, it will be reflected in the robot motion.

\*AREA signal is not output.

\*Even if the operation setting is set to “Stop with alarm”, the alarm will not occur.

## Available features (Monitor)



### Pallet monitor

You can monitor the status of the pallets.

You can also change the cell number of the next cell.

### Graphics monitor

Display 3D graphics of the robot.

You can monitor the movement, posture, and TCP trajectory of the robot.

### Robot information monitor

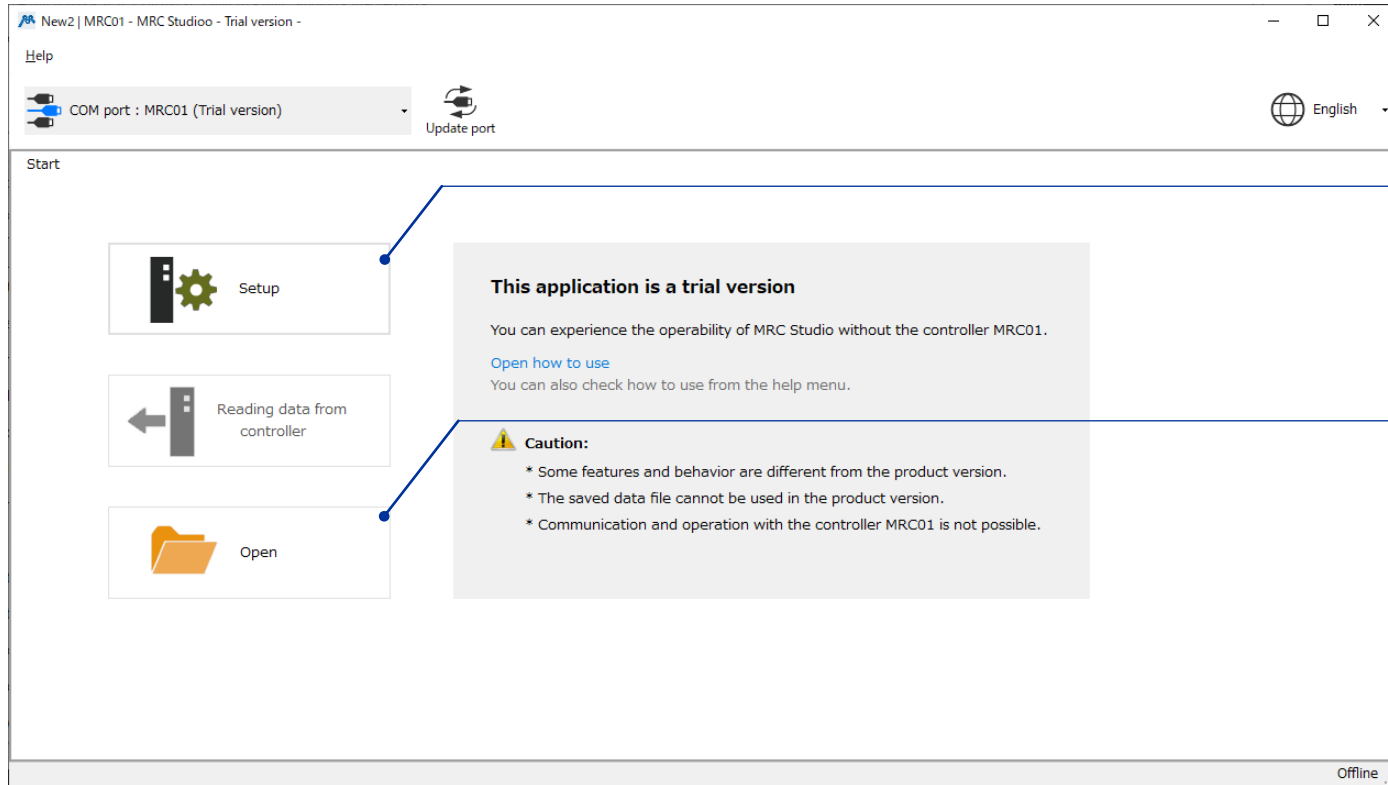
You can monitor the robot information.。

To change the robot information, refer to p.18.

# How to use



## Start



### Setup

You can set any robot.

### Open

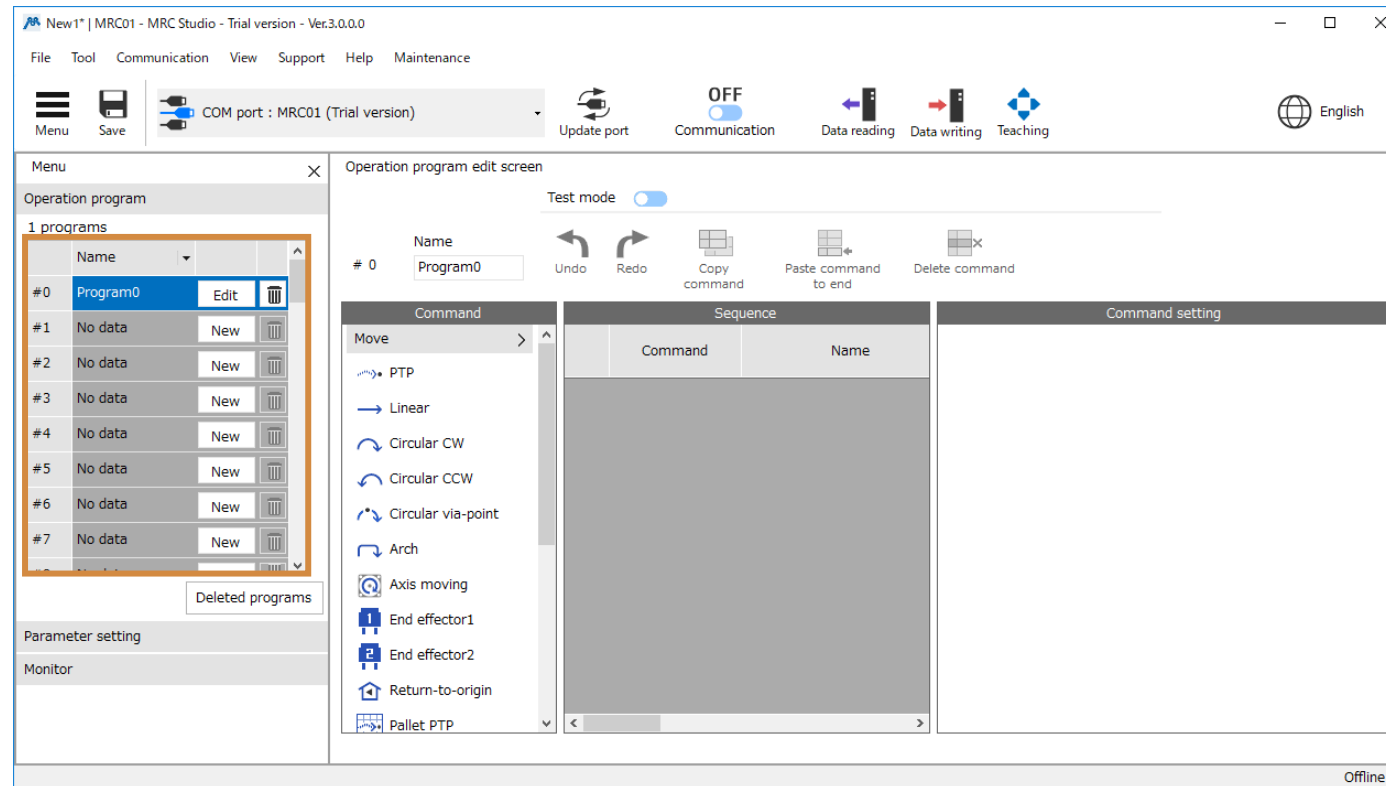
Open the saved data file.

You can start operation immediately by opening the samples file included in the installer.

\* The sample files does not require the operation on pp.11-13.

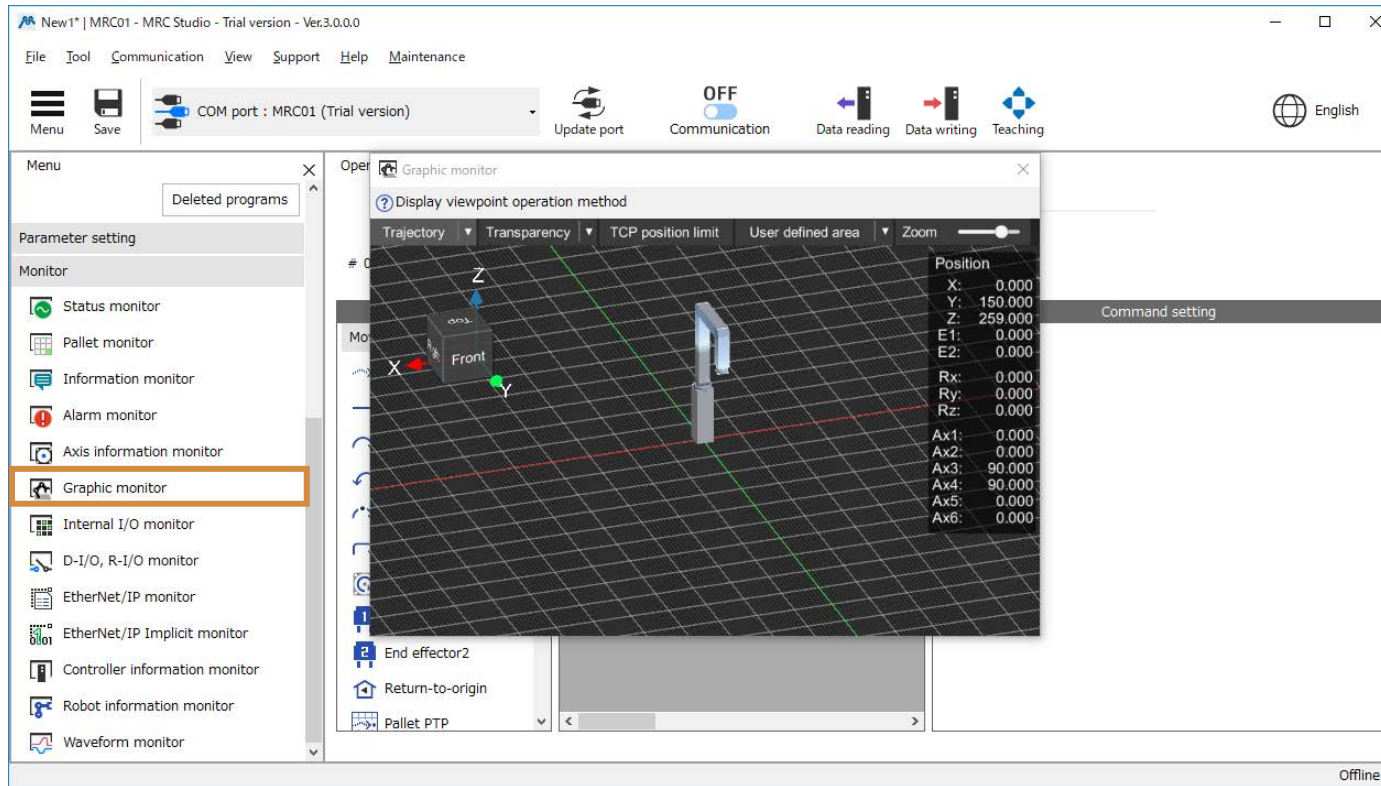
Launch the app and select "Setup" or "Open".

## Operation program



Click "New" or "Edit" of any program number to open the operation program edit screen.

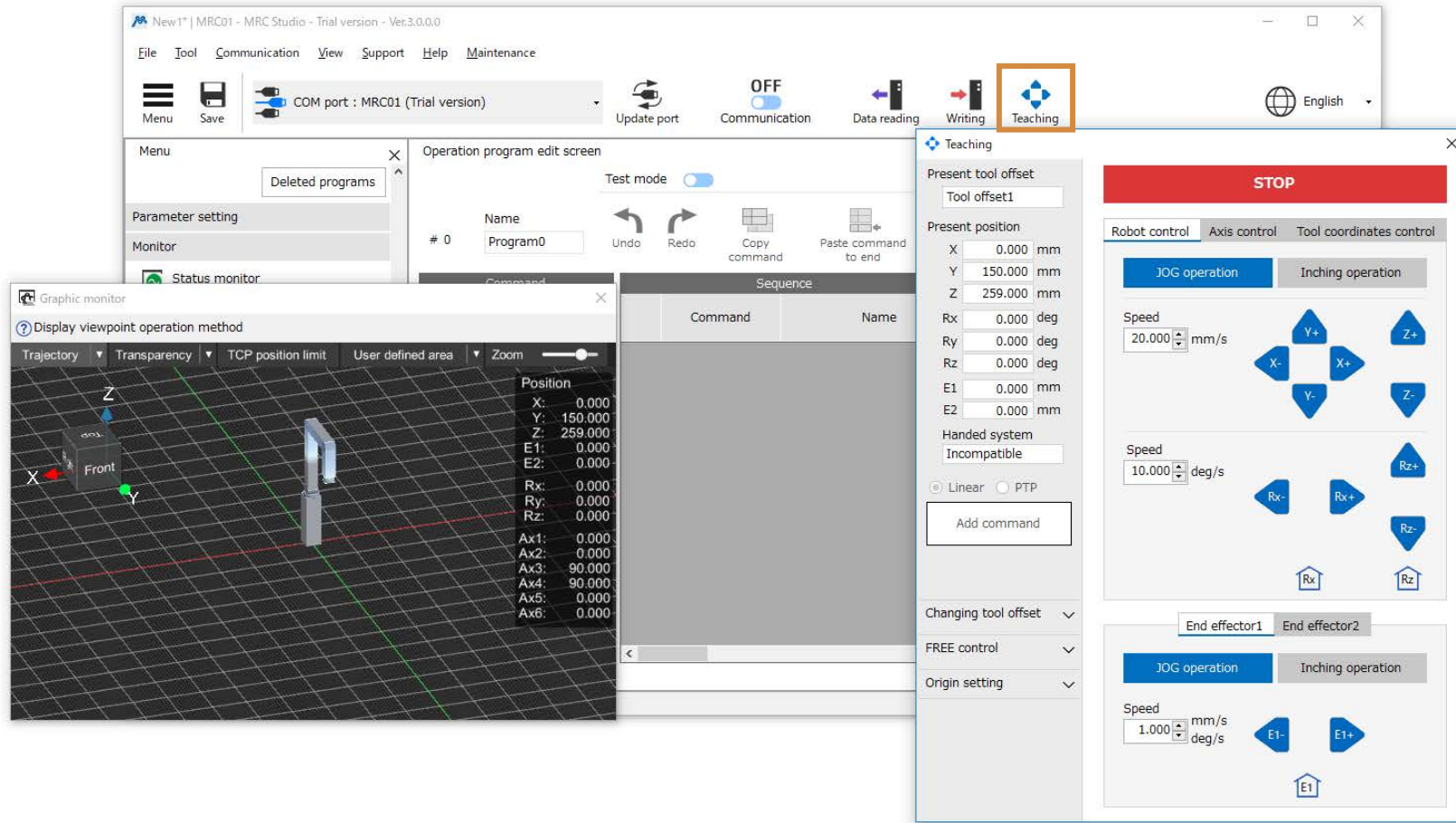
## Graphic monitor



Open the graphics monitor.

You can monitor the movement of the robot.

## Teaching



Open the teaching screen.

## Setting the origin of the user coordinate system

① Turn on communication

② Operate the robot

③ Click to set the origin

The screenshot displays the MRC Studio software interface. At the top, the 'Communication' status is shown as 'ON'. The 'Teaching' window is open, showing 'Present tool offset' and 'Present position' fields. The 'Origin setting' section is highlighted, with the option 'Set TCP to origin of user coordinate' selected. The 'Graphic monitor' window shows a 3D coordinate system with a robot arm and a 'Front' label. The 'Sequence' window shows a list of commands.

Operate the robot to set the origin at any position.

## Teaching

① Operate the robot

② Add command

Command	Name
Linear	

Position

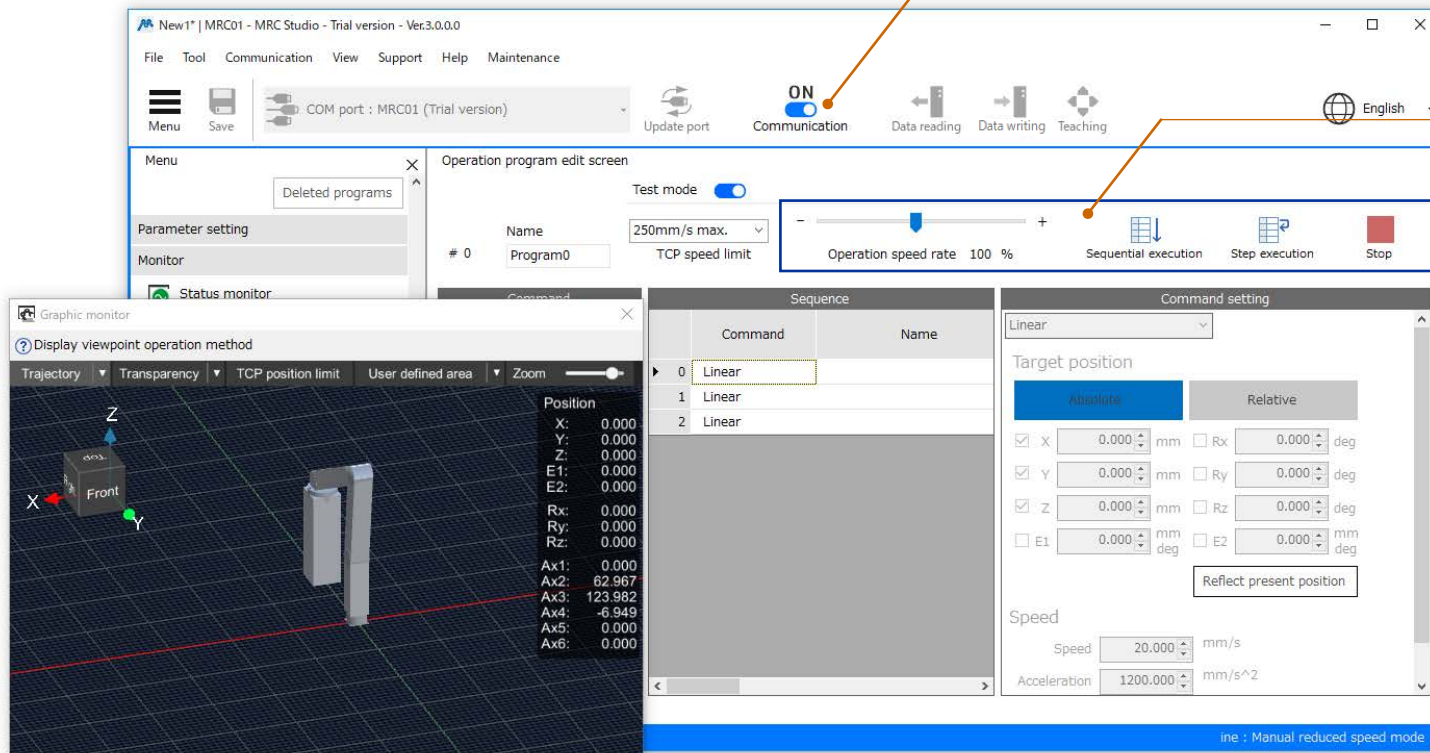
X:	0.000
Y:	58.000
Z:	98.000
E1:	0.000
E2:	0.000
Rx:	0.000
Ry:	0.000
Rz:	0.000
Ax1:	0.000
Ax2:	38.322
Ax3:	102.881
Ax4:	38.796
Ax5:	0.000
Ax6:	0.000

Operate the robot and add a command to the program.

# Test execution

① Turn on test mode

② Test execution



## Operation speed rate

Sets the rate of test execution.

## Sequential execution

Execute sequentially from the selected command.

## Step execution

Executes only the selected command.

You can test execution the created program.

## Operation program editing

① Turn off communication

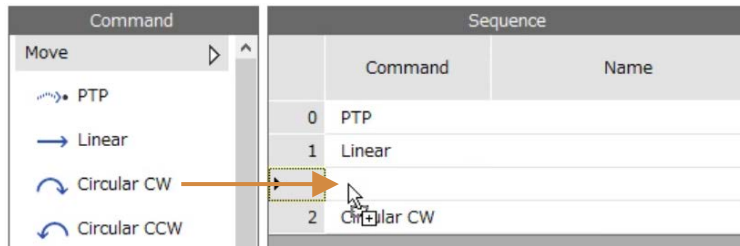
② Drag and drop or click the command you want to add

③ Enter the setting information

You can select and edit command.

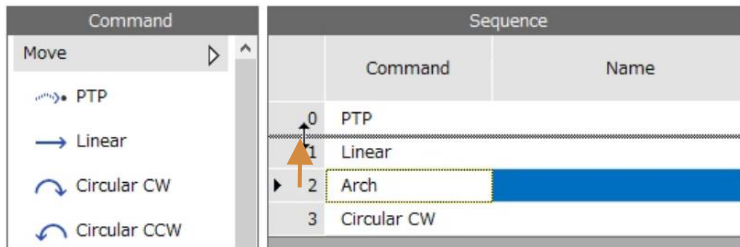


## Operation program editing



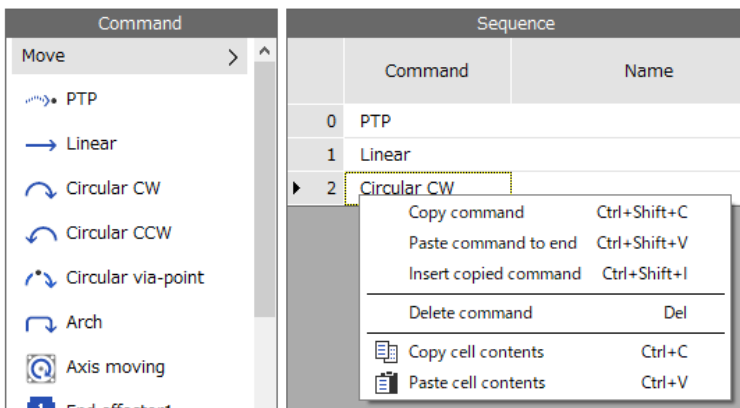
### Insert

You can insert it by dragging and dropping the command.



### Change order

You can change the order by dragging the row header (command number part).



### Copy command

You can copy the selected commands.

Copied commands can be pasted at the end of a sequence or inserted below a selected command.

Right-click to display the edit menu.

## Operation program editing

Sequence				
	P...	Speed	Acceleration	Decel
▶ 0		25.000	1,200.000	
1		20.000	1,200.000	
2		20.000	1,200.000	

### Edit cell

You can edit by double-clicking on the cell.

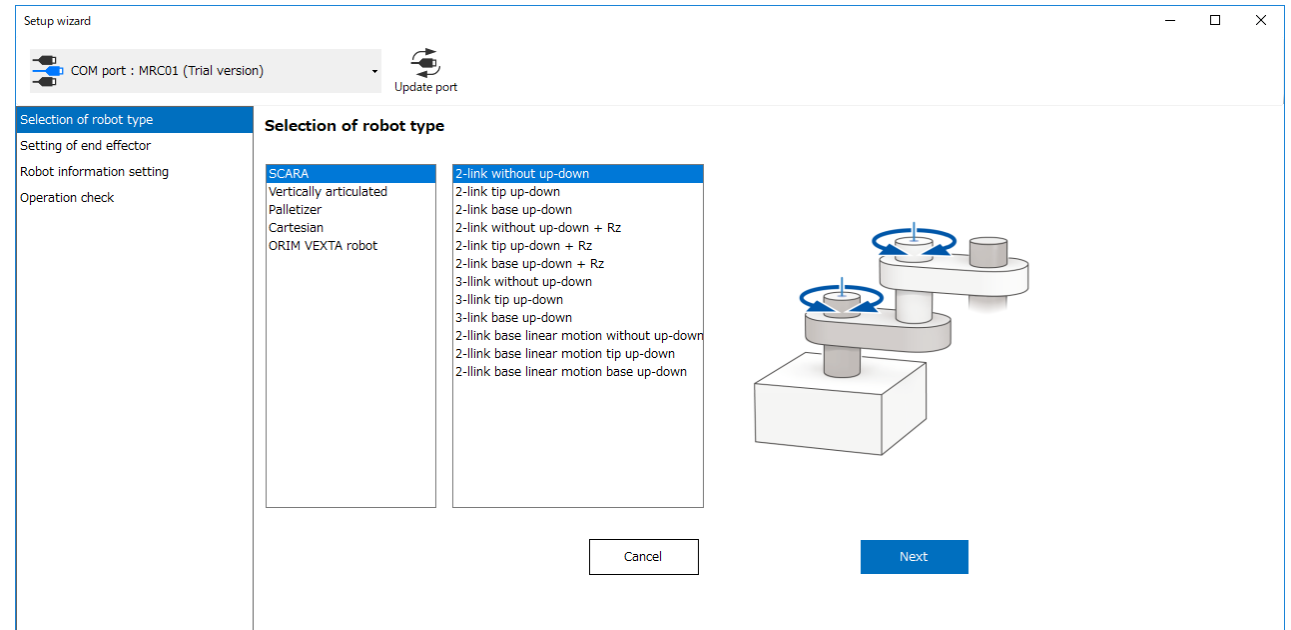
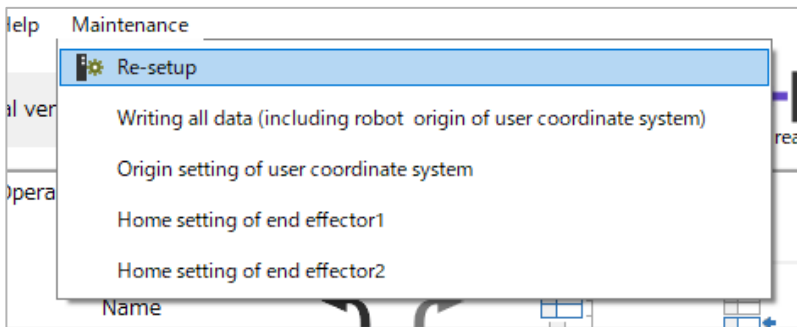
Sequence				
Rz	P...	Speed	Acceleration	Decel
▶ 0		25.000	1,200.000	
1		25.000	1,200.000	
2		25.000	1,200.000	

### Copy and paste the value of the cell

You can copy and paste the value of the cell.

You can also select multiple cells and bulk copy/paste.

## Change robot information



You can change the robot information from “Re-setup” in the maintenance menu.

***Oriental motor***