YASKAWA

PLUG & PLAY KIT

YASKAWA collaborative robot
Plug-in for Smart pendant
Setup Guide

Model name: ARH350A/305B

Rev. 1.00.3

Plexmotion

Shinano Kenshi Co., Ltd.

1. Plugin specifications

1.1. Compatible products

Compatible Products

- YASKAWA Smart pendant
- YASKAWA HC10DTP, HC10DTFP, HC10SDTP, HC20DTP, HC20SDTP
- YRC1000, YRC1000 micro ***1**

Software Version Conditions

- Smart pendant version 2.1.2 or later
- YRC1000 version YAS4.33.00A-00 or later
- YRC1000 micro version YBS2.49.00A-00 or later

***1**

The following parts must be purchased separately as options. Please consult with the place where you purchased the robot.

- General I/O cable
- General I/O terminal blocks
- I/O cable

1.2. What to prepare

- Robotic Gripper ARH350A or ARH305B
- Attachment PA339-0345
- Connection cable PCSA44-01
- Signal converter for YRC

The robotic gripper ARH350A/305B is not dustproof, not drip-proof, and not food-proof.
Please prepare a separate cover and cover it before using.

2. Robotic gripper specifications

2.1. ARH350A

Size	Φ60 × 155 [mm]
Weight	640 [g]
Center of gravity position from flange	X_G ： 0.0 [mm] Y_G ： 0.0 [mm] Z_G ： 65.0 [mm]
Moment of Inertia	Ix : 0.002 [kg・m^2] Iy : 0.004 [kg・m^2] Iz : 0.001 [kg・m^2]
Recommended tool center point ***2**	X ： 0.0 [mm] Rx ：0.0 [deg] Y ： 0.0 [mm] Ry ：0.0 [deg] Z ： 174.4 [mm] Rz ：0.0 [deg]

***2**
The recommended tool center point is the value when wearing a standard finger.

2.2. ARH305B

It is equivalent to the ARH350A in section 2.1, so please refer to it.

3. Inquiries

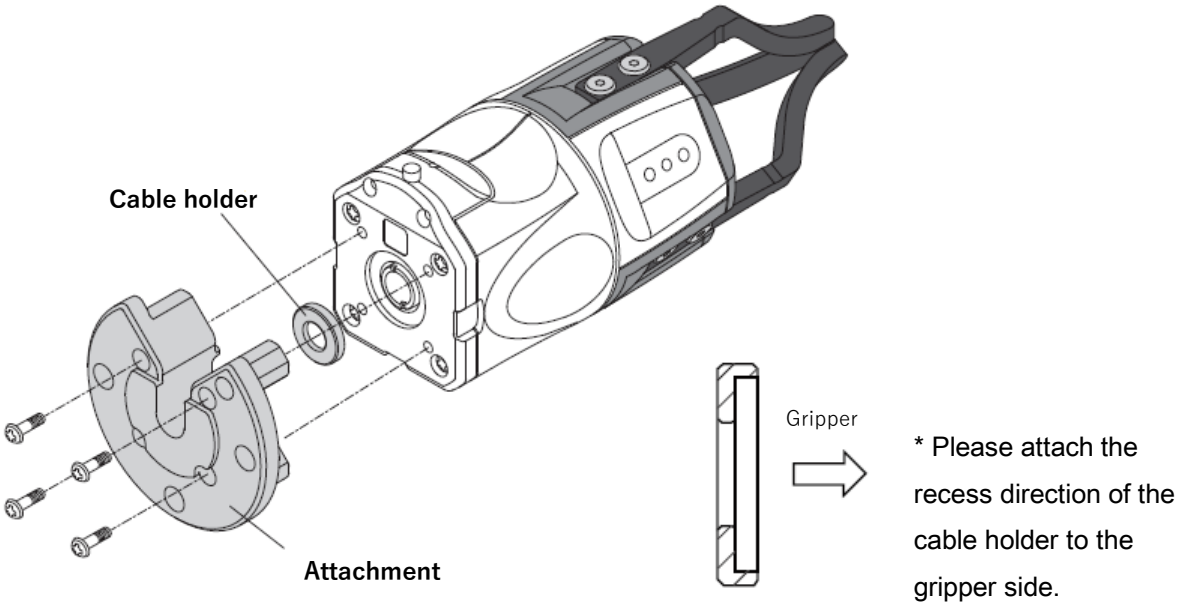
Plexmotion Support Center
E-mail：plexmotion@aspina-group.com

4. How to install it on a robot

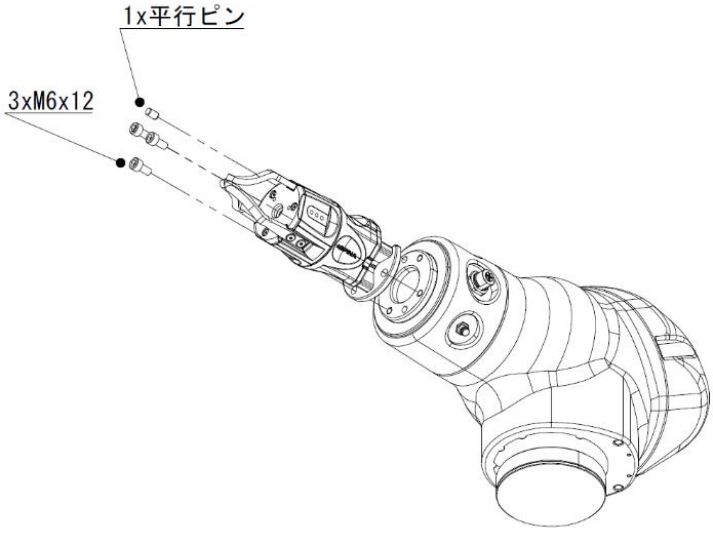
Please perform installation work with the robot while the robot is turned off.

4.1. Gripper mounting

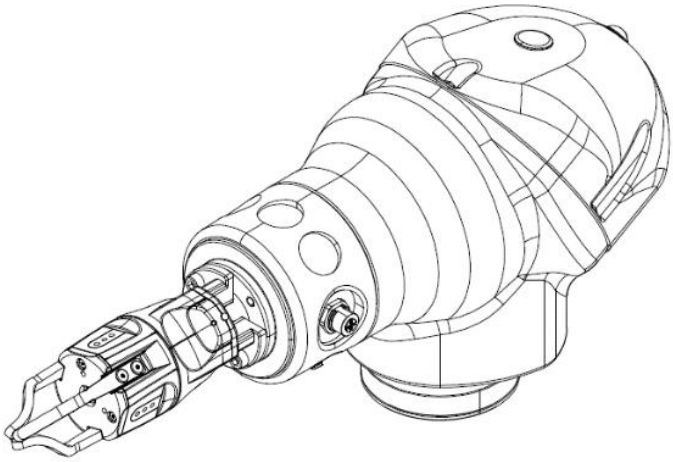
1. Attach the standard attachment to the robotic gripper body (screws are included with the attachment).



2. Attach the attachment to the mechanical interface of the robot body gripper.

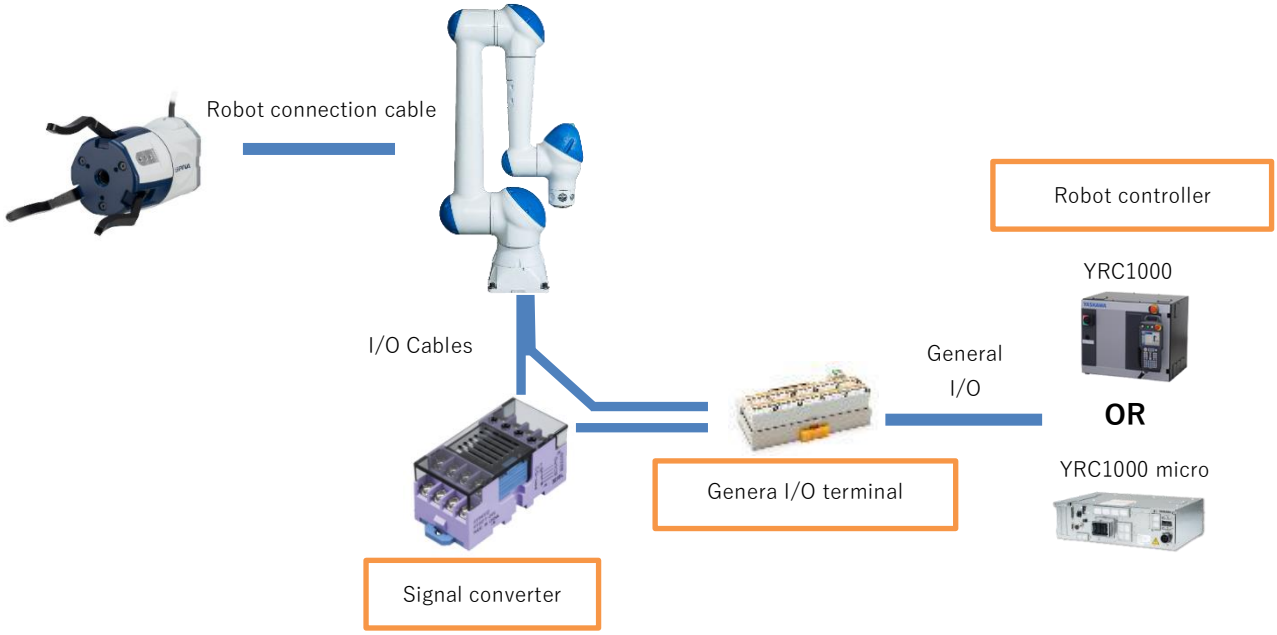


3. That's it for the gripper installation.



4.2. Wiring method

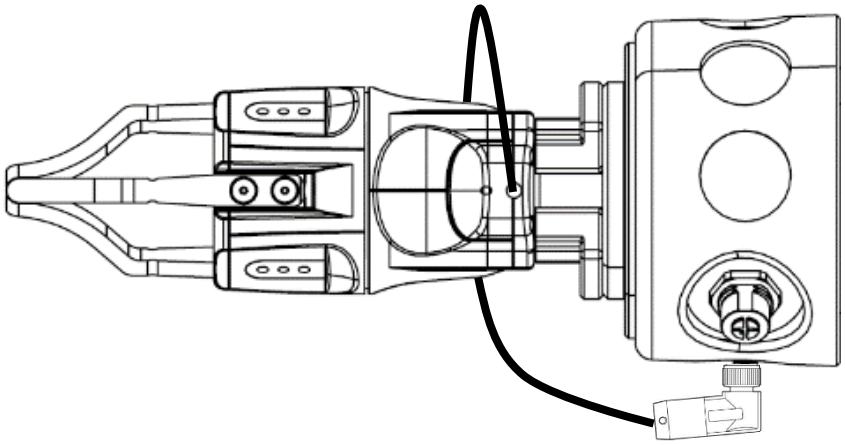
The connection with the robot looks like the following figure.



The connection examples in this document assume that the robot controller I/O is of the NPN type (standard specification).

1. Connect the robot connection cable to the main body cable of the robotic gripper.

2. Connect the I/O cable connector (S) on the robot flange to the robot connection cable.



3. Connect the controller (YRC1000 or YRC1000micro) to the general I/O terminal block with a general I/O cable.

4. Using an I/O cable and a signal converter, connect the manipulator base connector (S) to the general I/O terminal block.

4.2.1. PNP⇒NPN Signal Converter

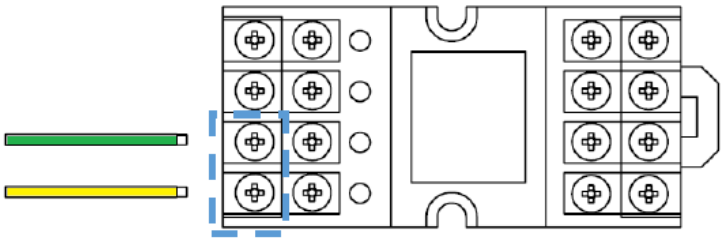
The output signal from the robotic gripper is PNP.
If the I/O on the controller side is NPN specification, convert from PNP to NPN.

Cables are included with the signal converter.

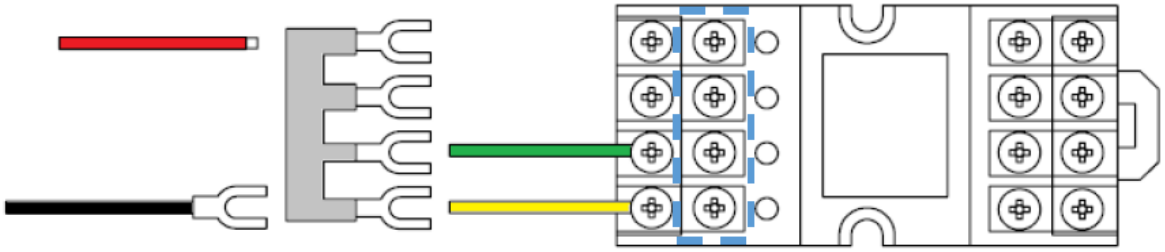
- Yellow cable to connect to the robot controller input terminal (IN0007)
- Green cable to connect with robot controller input terminal (IN0008)
- Two black cables to connect the 0V terminals
- Two short bars to short four pins

Wiring method

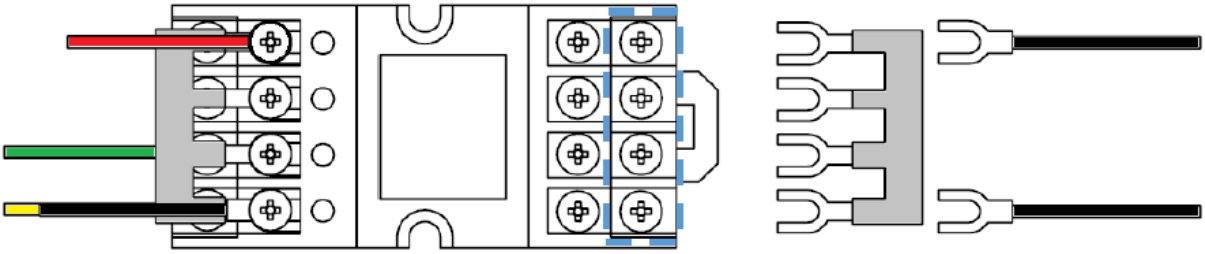
1. Connect the yellow and green of the I/O cable to Nos. 13 and 14 of the photoMOS relay as shown in the figure.



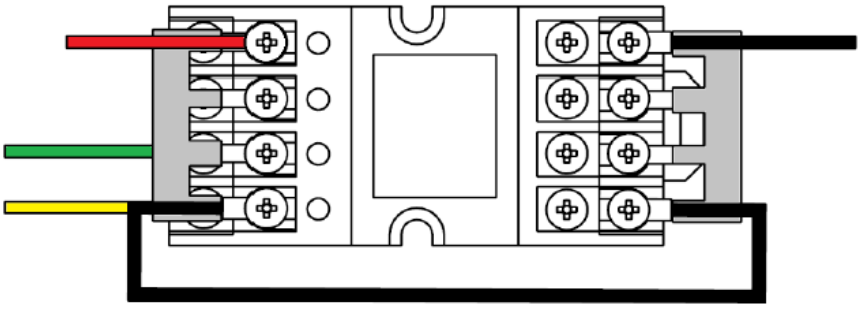
2. Attach the short bar, black cable (Y terminal on both sides) and red I/O cable to terminal block No.9～12.



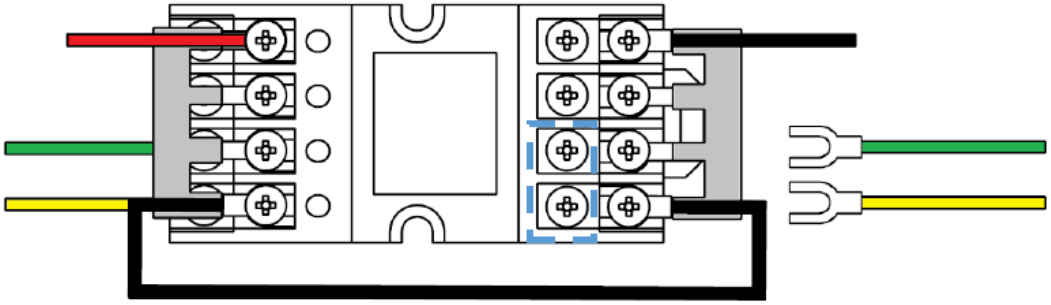
3. Attach the short bar, black cable (Y terminal on both sides), and black cable (Y terminal + pin) to No. 1~4.



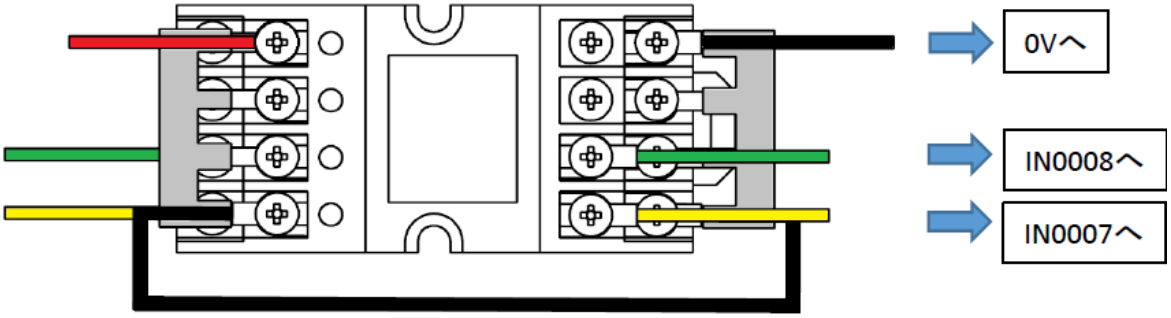
After installation:



4. Connect the yellow cable and the green cable to Nos. 5 and 6 of the photoMOS relay.



5. Connect the yellow cable to IN0007 and the green cable to IN0008 on the general I/O terminal block.



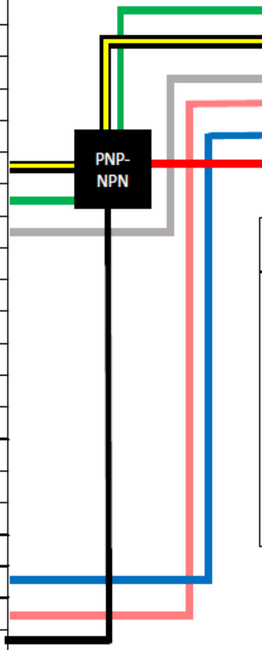
6. Connect a black cable to 0V on the general I/O terminal block.

This is the end of the connection.

汎用I/Oケーブル → I/Oケーブル ↔ 機内配線 ↔ ロボット接続ケーブル

汎用I/O端子台

名称	説明	ピン番号 YRC1000	ピン番号 YRC1000 micro
COM	入力コモン	-	6
IN0001	汎用入力1	B3	7
IN0002	汎用入力2	A3	32
IN0003	汎用入力3	B4	8
IN0004	汎用入力4	A4	33
IN0005	汎用入力5	B5	9
IN0006	汎用入力6	A5	34
IN0007	汎用入力7	B6	10
IN0008	汎用入力8	A6	35
+24V	+24VU	B18	15
+24V	+24VU	A18	22
+24V	+24VU	B19	25
+24V	+24VU	A19	40
+24V	+24VU	-	47
OT0001	汎用出力1	B10	12
OT0002	汎用出力2	A10	37
OT0003	汎用出力3	B11	13
OT0004	汎用出力4	A11	38
OT0005	汎用出力5	B12	16
OT0006	汎用出力6	A12	41
OT0007	汎用出力7	B13	17
OT0008	汎用出力8	B13	42
0V	024VU	B16	31
0V	024VU	A16	-



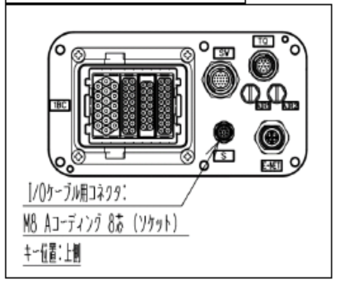
コネクタベース I/Oケーブル用コネクタ ピンアサイン (先端フランジ側)

ピン番号	機能
1	RS485A
2	RS485B
3	DIO4
4	DIO3
5	24V
6	DI2
7	DI1
8	GND

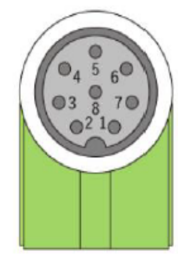
ロボットハンド ピンアサイン

ピン番号	機能
1	RS485A
2	RS485B
3	DIO4
4	DIO3
5	24V
6	DI2
7	DI1
8	GND

コネクタベース構成



ロボット接続ケーブル構成



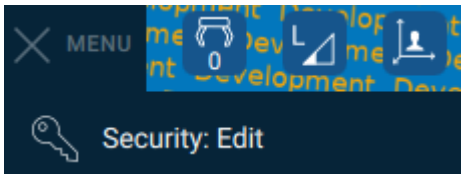
Pin	Function
1	RS485A
2	RS485B
3	DIO4
4	DIO3
5	24V
6	DI2
7	DI1
8	GND

5. Install

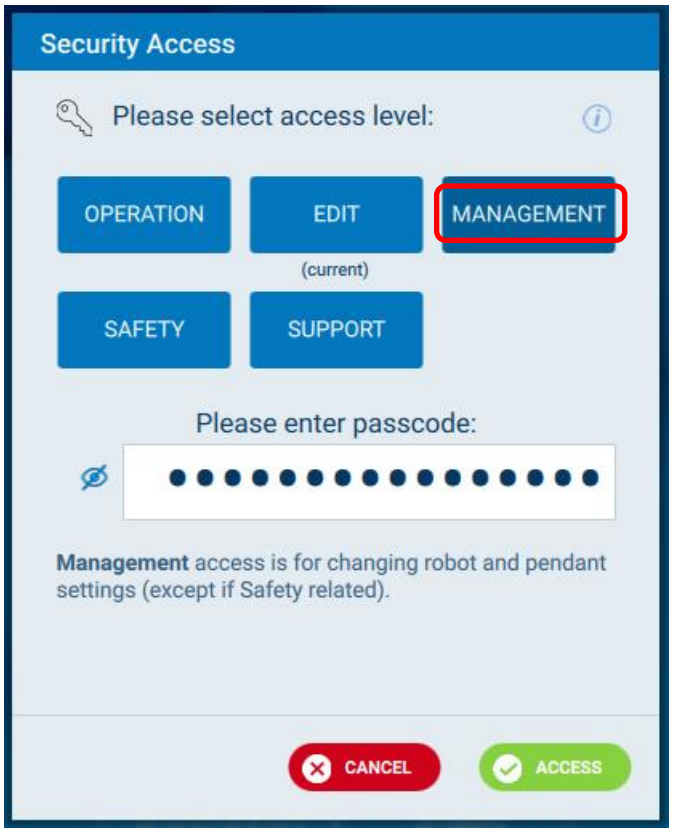
If a plug-in from another company's product is installed, the gripper may malfunction.
Disable unnecessary plugins first.

5.1. How to install

1. Copy the obtained YIP file to the USB memory device and insert it into the smart pendant.
2. Open the menu and select “Security”.

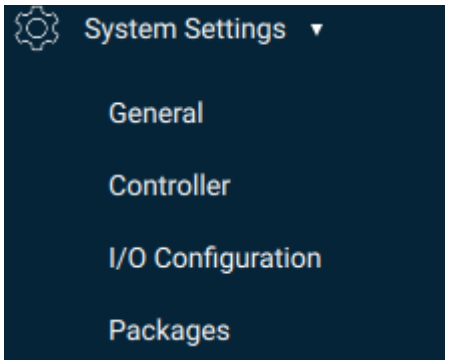


3. Select "MANAGEMENT" from the security access level, enter your password and tap ACCESS button.

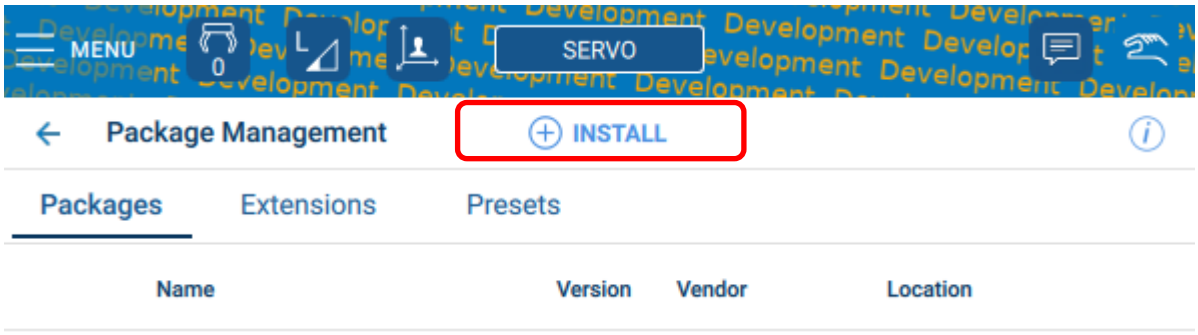


Note: The factory password for the management option is set to "9999999999999999" (enter "9" 16 times).

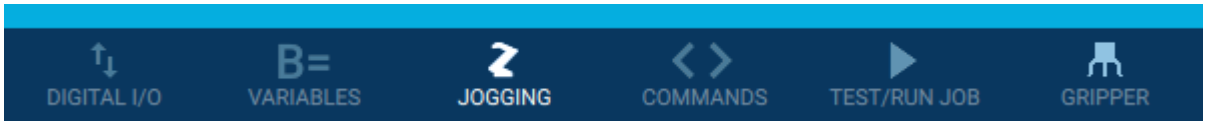
4. Open the menu and select “Packages” from the system settings.



5. Select an installation option.



6. Select the ASPINA Extension file from the inserted USB memory device and click Install.
7. Once installed, you will see a three-fingers gripper mark at the bottom right of the smart pendant.

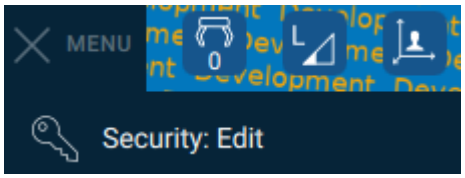


5.2. Tool preset settings

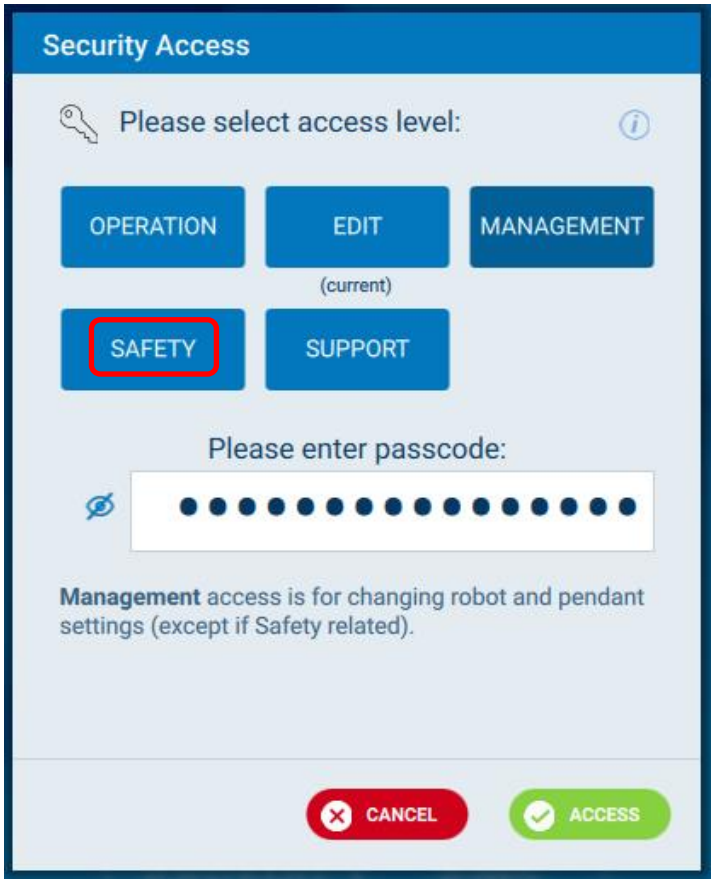
In order for the robot to operate as intended by the controller, the weight of the gripper, the center of gravity, the moment of inertia, the tool center point, etc. must be defined on the smart pendant.

5.2.1. How to set up the tool

1. Open the menu and select “Security”.

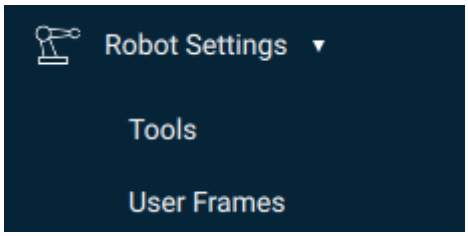


2. Select "SAFETY" from the security access level, enter your password and tap ACCESS button.



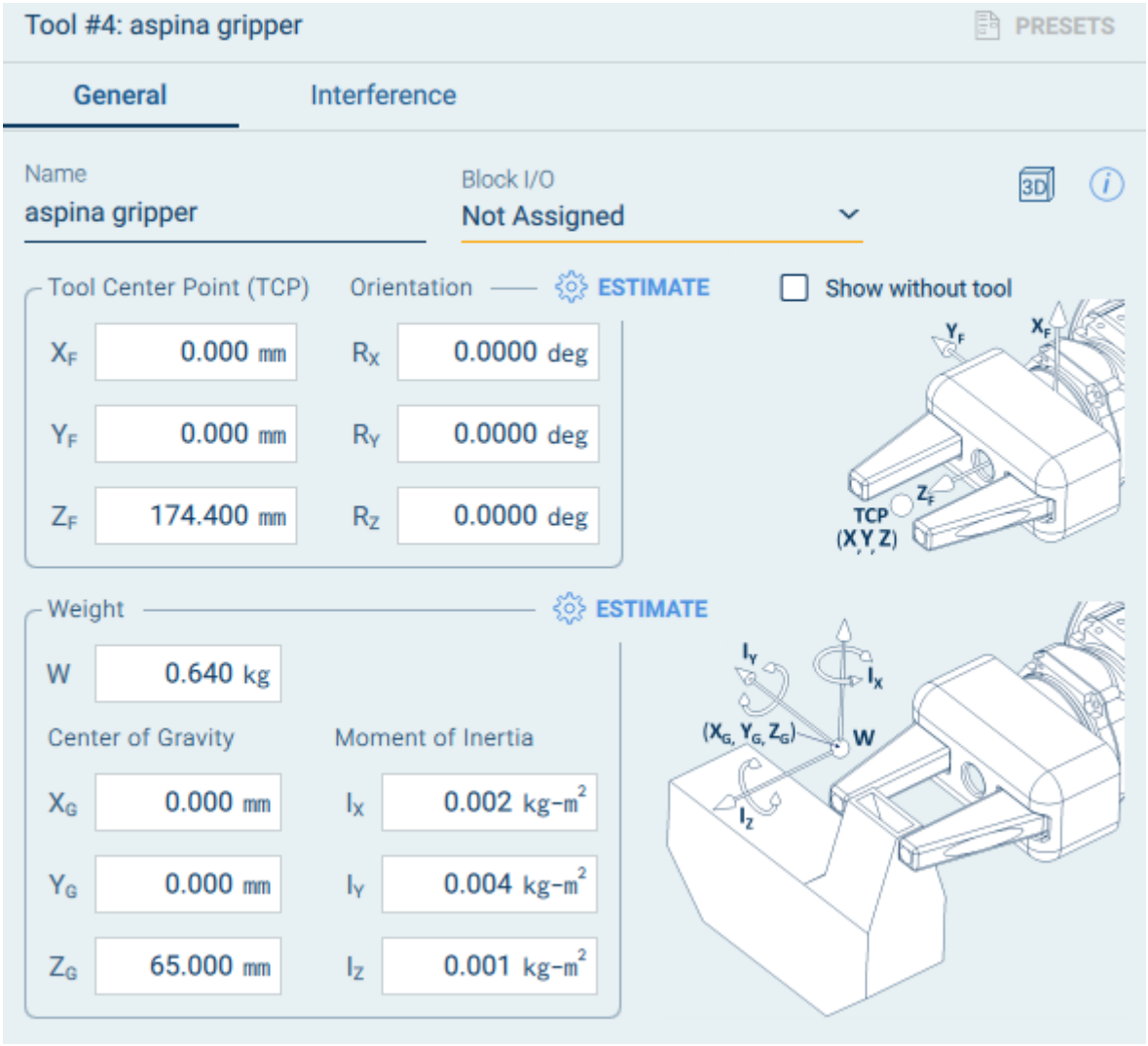
Note: The factory password for the safety option is set to "5555555555555555" (enter "5" 16 times).

3. Open the menu and tap “Robot Settings” -> “Tools”.



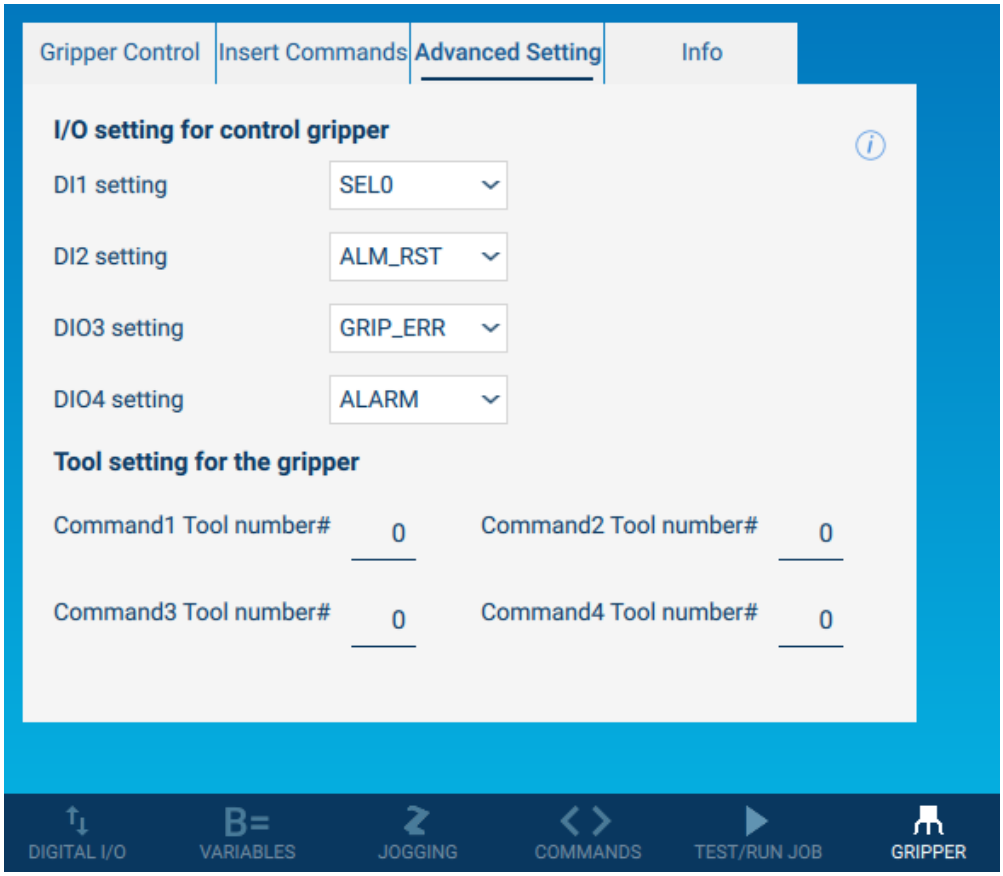
4. Select the number in the tool number that is not gripping the workpiece and the number that is in the state where the work is being grasped. In this example, Tool #0 is used for no workpiece and Tool #1 is used for a workpiece.

5. Select the tool number from the list on the screen and enter the tool name and parameters in the bottom panel.



Inside YIP is a gripper-held tool configuration file, so you can read out the settings with presets. For tool numbers with workpieces, set the mass including the workpiece and the position of the center of gravity.

5.3. Advanced setting



Gripper I/O Configuration

To correctly handle the robot-to-gripper signal, the extension side selects the function of the gripper signal.
As long as the gripper remains in its factory state, you can basically use it with the default settings.
The defaults are as follows:

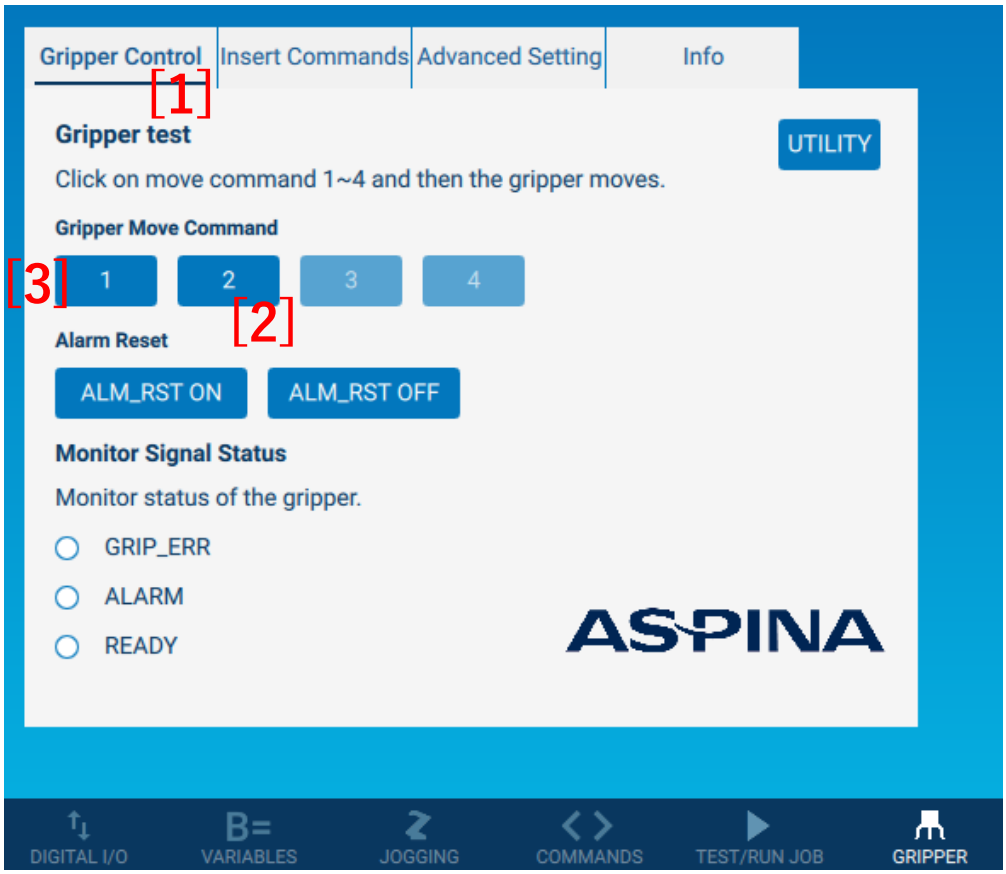
DI1 setting	**SEL0**
DI2 setting	**ALM_RST**
DIO3 setting	**GRIP_ERR**
DIO4 setting	**ALARM**

Setting the Tool Number

Since operation instruction 1 is a gripper opening instruction, leave it at 0 and select a different tool number for other closing instructions. Refer to Section 5.2 to set the mass and center of gravity position for each tool number.

6. How to operate

6.1. Open/close test



1. Tap the “Gripper Control” tab.
2. Tap button 2 to fully close the gripper. ***3**
3. Tap button 1 to fully open your gripper. ***4**

***3 *4**

Full closure and full opening are the operations for factory gripper I/O configuration.
If you use AspinaRobogicGripperSetup.exe (see Chapter 8) to adjust the opening and closing angle of the robotic gripper, the operation will not be as follows.

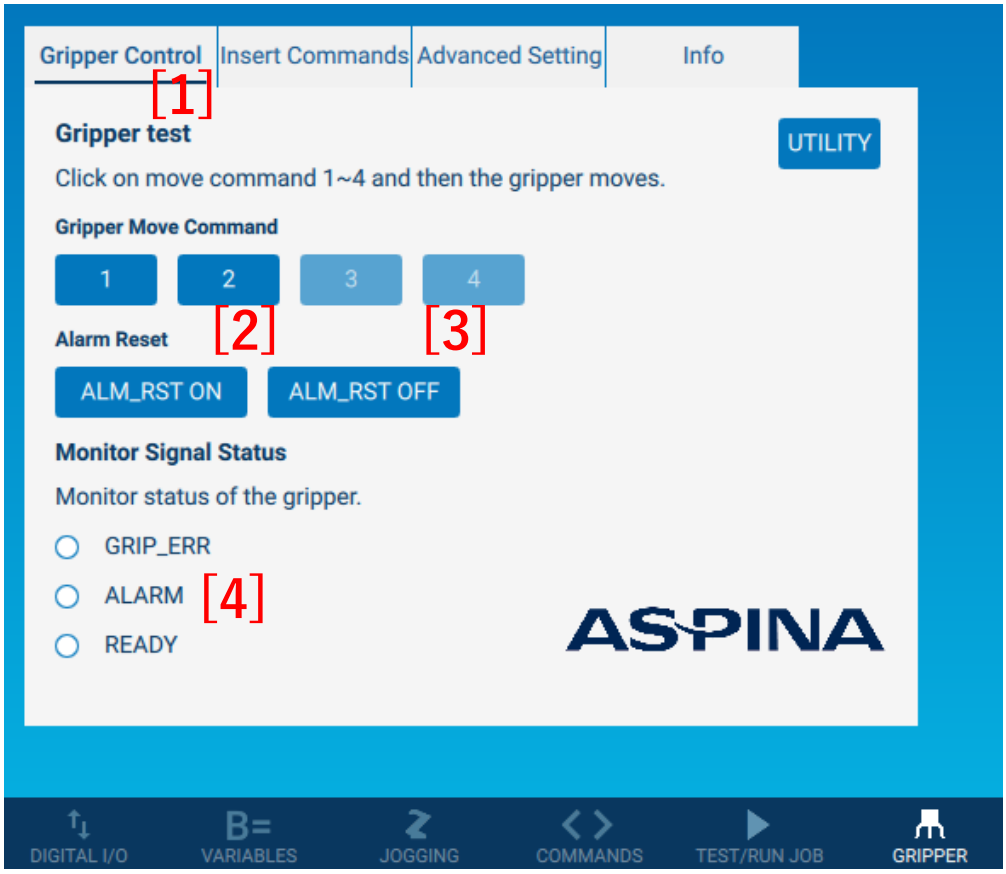
6.2. Insert commands

1. Select the “Insert Commands” tab.
2. Select "STEP1: Select completion condition".
3. Select "STEP2: Select grip check".
4. From the drop-down, select the operation instruction you want to add. ***5**
5. By pressing “INSERT”, The gripper action is added to the robot's job list.

***5**

When the gripper is the default setting, Move command 1 is fully open operation, and Move command 2 is fully closed.

6.3. Alarm reset



When the gripper detects an abnormality, the pilot light on the gripper will flash red/orange. Since the abnormally stopped gripper does not accept operation instructions, an alarm reset is performed for the gripper by the following method.

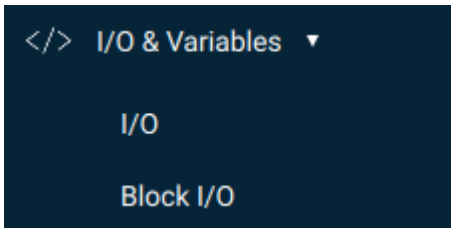
1. Tap the “Gripper Control” tab.
2. Press “ALM_RST ON”.
3. Press “ALM_RST OFF”.
4. If the ALARM indicator is off and the pilot light of the robotic gripper is lit green, abnormal recovery is completed.

If there is an abnormality that cannot be recovered, it will remain in an abnormal state even if the reset operation is performed.
Also, nothing happens when you command a normal gripper.

6.4. Direct teach

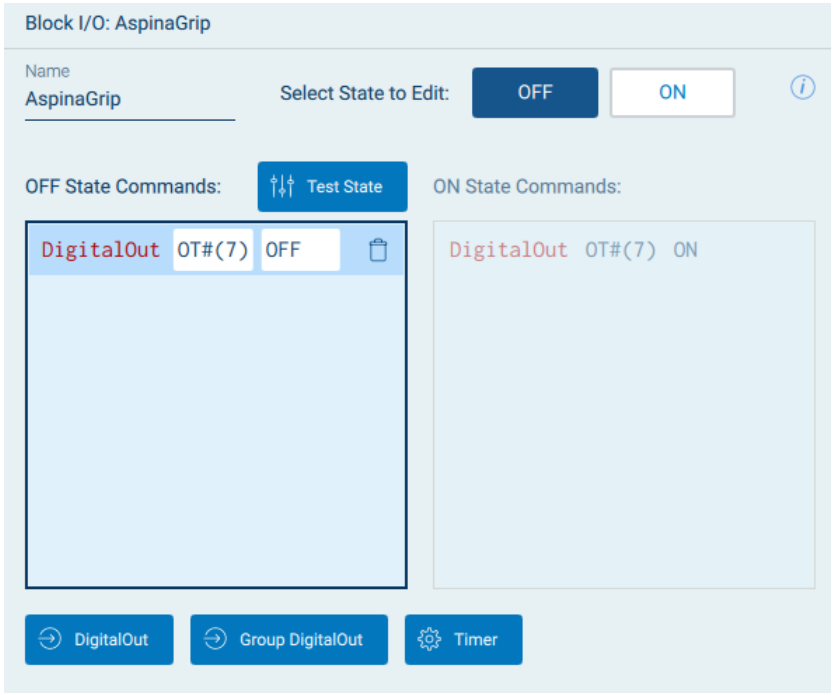
By utilizing Block I/O and the TOOL UTILITY button on the wrist of the robot, it is possible to open and close the robotic gripper while directly teaching.
To enable the TOOL button, the Block I/O and tool number must be set appropriately.

1. Open the menu and, under “I/O & Variables”, tap “Block I/O”.

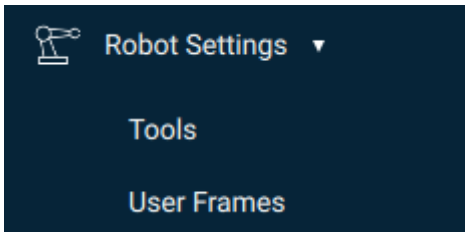


2. Tap “NEW BLOCK I/O” to add Block I/O.

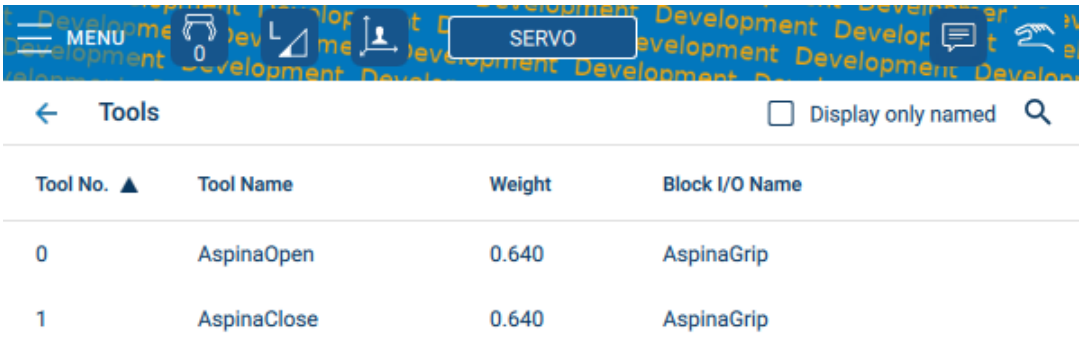
3. Create Block I/O. In the example below, the name is "AspinaGrip", the OFF state is output No. 7 is off, and the ON state is output No. 7 turned on.



4. Open the menu and tap “Robot Settings” -> “Tools”.

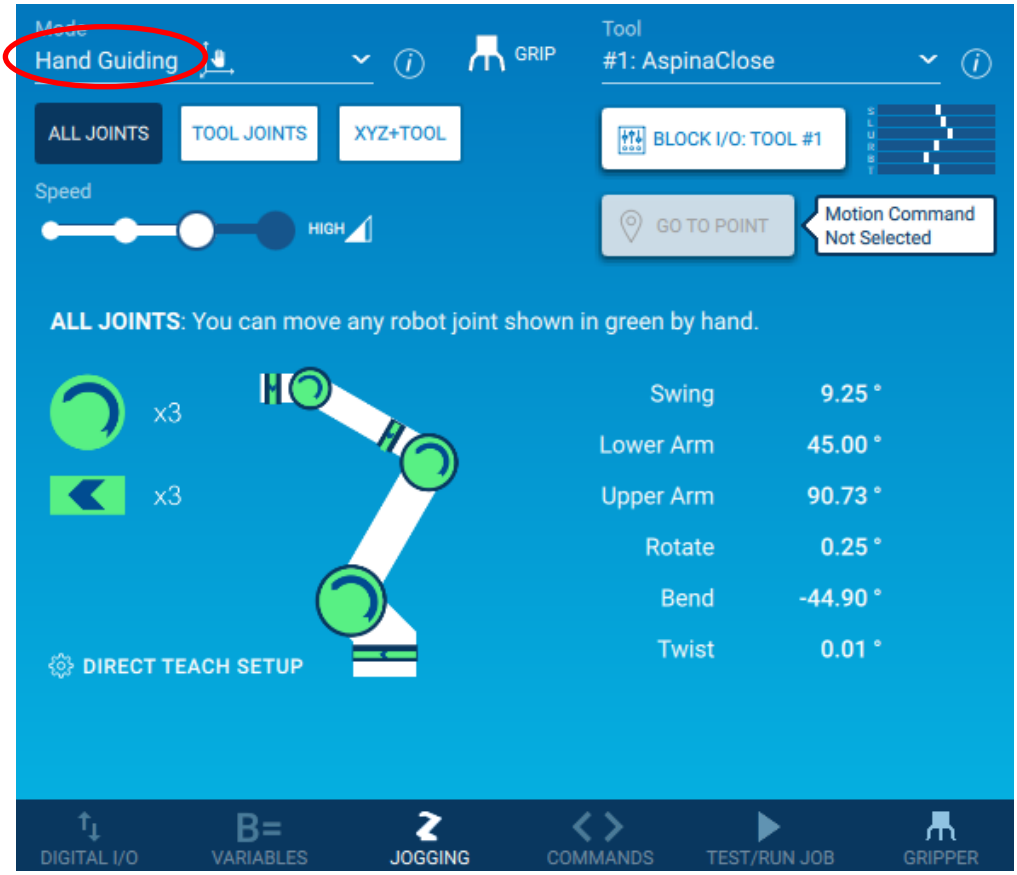


5. Select the tool number when the gripper is open and the tool number when the gripper is closed. In the example below, tool number #0 is open and tool number #1 is closed. If the gripper is gripping a workpiece, set the tool weight and center of gravity position according to the workpiece.

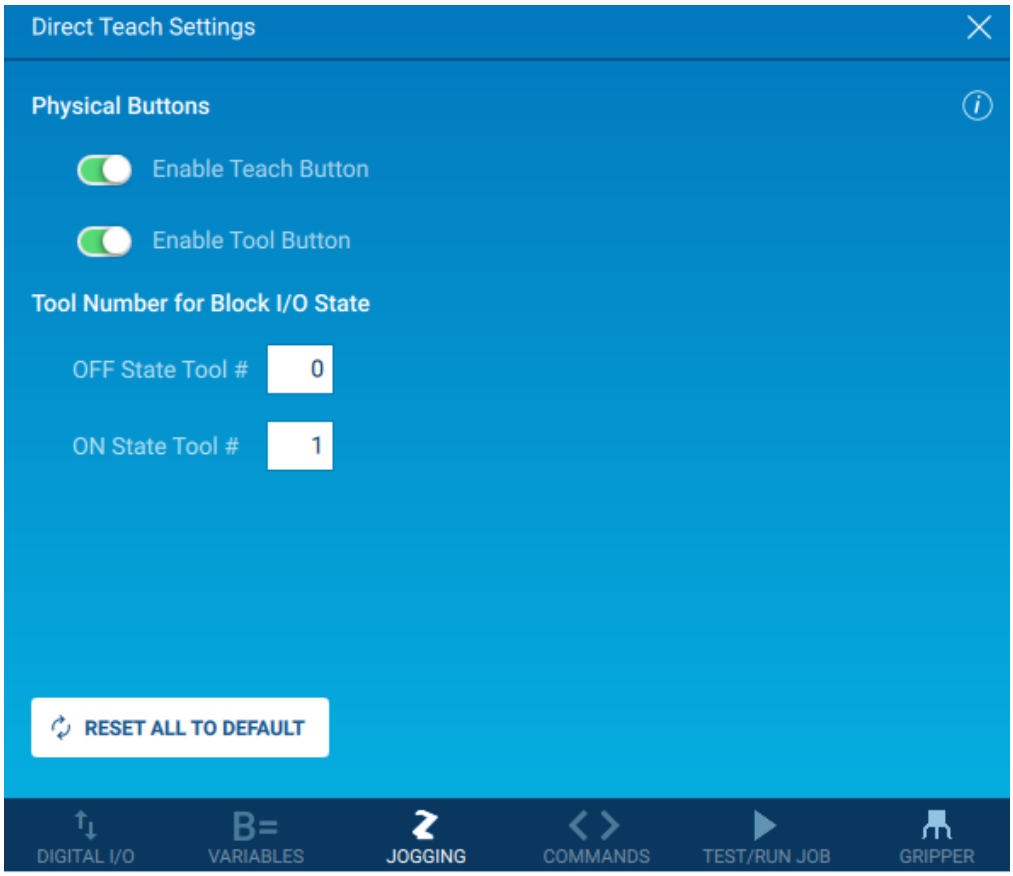


6. Select Block I/O for the selected tool settings. Select the same Block I/O name for each tool number for opening and closing.

7. To set the direct teaching, open the “JOGGING” panel and set the operation mode to “Hand Guiding”.



8. Tap “DIRECT TEACH SETUP” in the lower left.



9. Enable "Enable Tool Button" in the button settings and enter the tool number for each Block I/O state.

7. User interface specifications

7.1. Panel

7.1.1. Gripper Control

Gripper Move Command *6

1	Output (SEL0, SEL1)=(OFF, OFF) from the robot and move the gripper. The default is full-open operation.
2	Output (SEL0, SEL1)=(ON, OFF) from the robot and move the gripper. The default is to close the operation.
3	Output (SEL0, SEL1) =(OFF, ON) from the robot and move the gripper. The default is full-open operation.
4	Output (SEL0, SEL1) =(ON, ON) from the robot and move the gripper. The default is to close the operation.

Alarm Reset

ALM_RST ON	Turn on the output to the alarm reset signal.
ALM_RST OFF	Turns off the output to the alarm reset signal. When the gripper stops abnormally, turn on and turn off the alarm release signal to restore it to the normal state.

Monitor Signal Status *7

GRIP_ERR	When the robot recognizes the grip error signal output by the gripper, it lights green.
ALARM	It monitors the alarm signal output by the gripper, and if the gripper becomes abnormal, it will turn green. When solid green, the gripper does not accept operation commands and remains stopped.
READY	Solid green when the gripper completes the opening and closing operation.

Utility

UTILITY	Tap the button to output the utility screen.

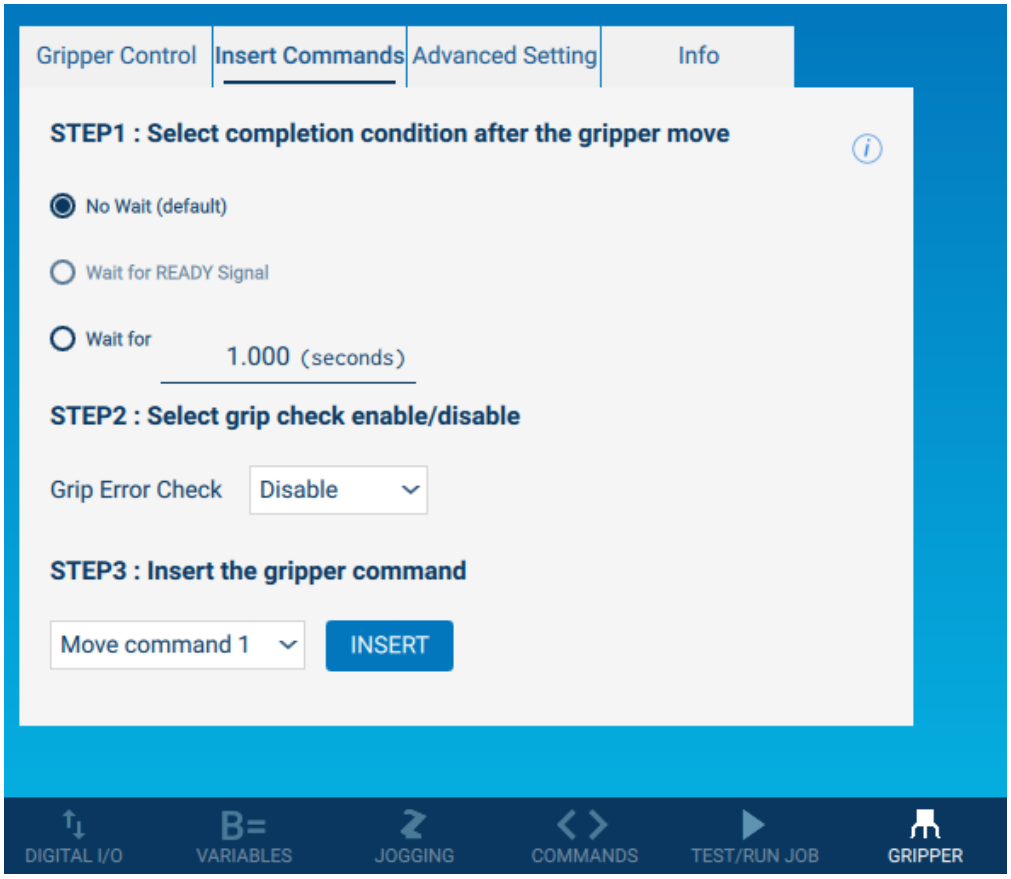
***6**

If you do not select SEL1 for input signal 2 in the Advanced Settings tab, SEL1 will not be output. Restrictions are imposed so that you cannot tap the operation commands Nos. 3 and 4.

***7**

Signals that are not selected in input/output signals 3 and 4 of the Advanced Settings tab will remain off without monitoring.

7.1.2. Adding commands



STEP1: Select completion condition after the gripper move

No Wait (default)	Do not set a wait time. Immediately after giving the operation instruction to the gripper, it transitions to the next job.
Wait for READY Signal	The robot recognizes the ready signal output by the gripper, and waits until the operation is completed and the ready signal is output.
Wait for	Set the latency in seconds. ***8**

STEP2: Select grip check enable/disable

Enable	Do a gripping check. If the workpiece fails to grab, a grip error signal is output, which the robot monitors and pauses the job.
Disable	We do not do gripping checks. If you want to close the gripper without grabbing the workpiece, select "None".

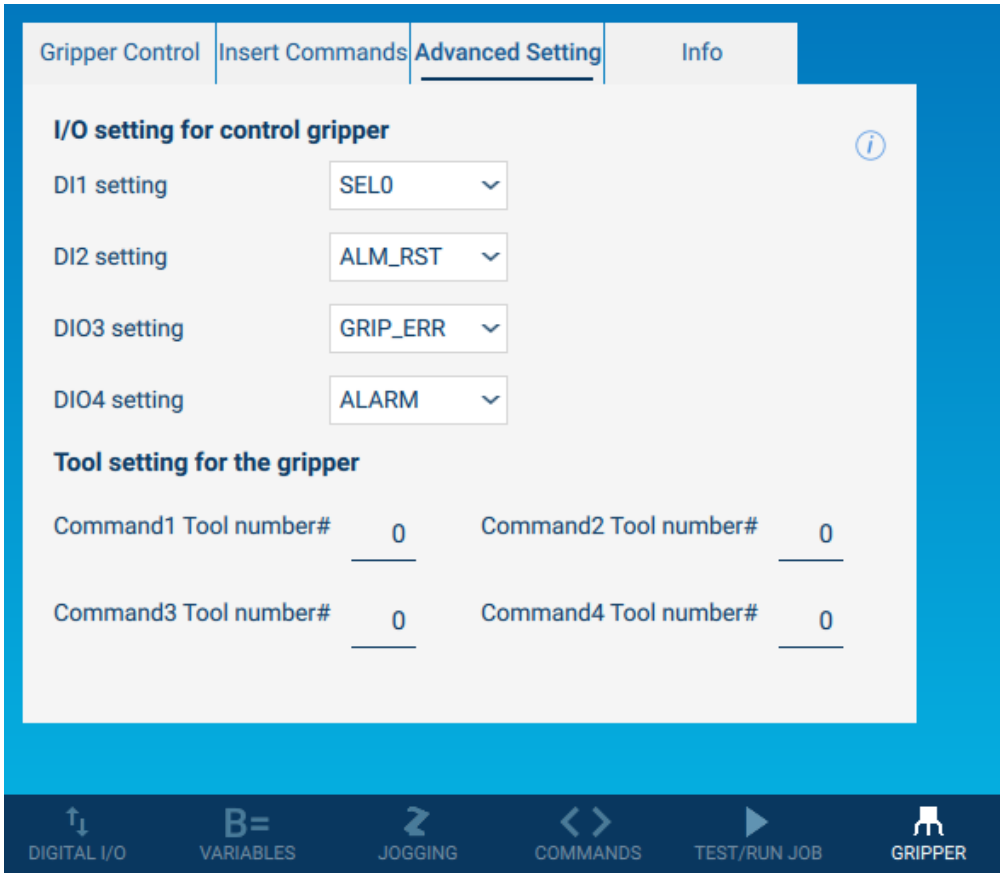
STEP3: Insert the gripper command

Move command 1	Add a job that outputs (SEL0, SEL1)=(OFF, OFF). The default is full-open operation.
Move command 2	Add a job that outputs (SEL0, SEL1)=(ON, OFF). The default is to close the operation.
Move command 3	Add a job that outputs (SEL0, SEL1)=(OFF, ON). The default is full-open operation.
Move command 4	Add a job that outputs (SEL0, SEL1)=(ON, ON). The default is to close the operation.
Check status	Add a job that only performs alarm detection and grip checks. Action instructions to the gripper and waiting for operation completion are omitted.

***8**

If the controller is YRC1000, the latency is set in increments of 0.01 seconds. Digits of 0.001 seconds are truncated.

7.1.3. Advanced settings



I/O setting for control gripper *9 *10 *11

< input> DI1 setting	Select the function of the gripper's digital input 1 and output the signal from the controller's general output 7. SEL0 | Gripper operation command input Input signal 1 is valid only for SEL0.
< input> DI2 setting	Select the function of the gripper's digital input 2 and output the signal from the controller's general output 8. SEL1 | Gripper operation command input ALM_RST | Alarm cancellation input

<table>
<tr><td>< output >
DIO3 setting</td><td>Select the function of the gripper's digital input/output 3 and monitor the gripper's signal with the controller's general input 7.

<table><tr><td>GRIP_ERR</td><td>Grip error output</td></tr><tr><td>ALARM</td><td>Alarm output</td></tr><tr><td>READY</td><td>Ready output</td></tr></table></td></tr>
<tr><td>< output >
DIO4 setting</td><td>Select the function of the gripper's digital input/output 4 and monitor the gripper's signal with the controller's general input 8.

<table><tr><td>GRIP_ERR</td><td>Grip error output</td></tr><tr><td>ALARM</td><td>Alarm output</td></tr><tr><td>READY</td><td>Ready output</td></tr></table></td></tr>
</table>

Tool setting for the gripper

Command 1 Tool number #	This is the tool number selected when the operation instruction 1 button is tapped.
Command 2 Tool number #	This is the tool number selected when the operation instruction 2 button is tapped from the panel or utility screen.
Command 3 Tool number #	This is the tool number selected when the operation instruction 3 button is tapped.
Command 4 Tool number #	This is the tool number selected when the operation instruction 4 button is tapped.

***9**

Select the same I/O settings as the robotic gripper settings.
You can check the setting parameters of the robotic gripper with the dedicated PC application. (see Chapter 8.)

***10**

The I/O settings at the time of shipment of robotic gripper products are as follows.

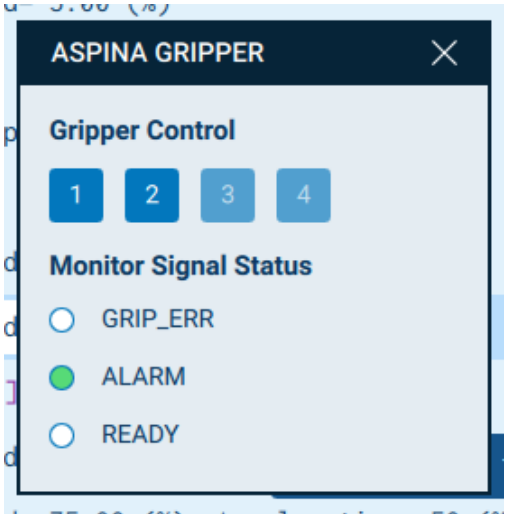
Settings	Default settings
DI1 setting	SEL0
DI2 setting	ALM_RST
DIO3 setting	GRIP_ERR
DIO4 setting	ALARM

***11**

If you select input/output signal 3 and input/output signal 4 for the same item, a pop-up indicating a warning is displayed.

A message to initialize the settings is output, and when you tap the button, it returns to the default setting.

7.2. Utility screen



Gripper Control *12

1	Output (SEL0, SEL1)=(OFF, OFF) and move the gripper.
2	Output (SEL0, SEL1)=(ON, OFF) and move the gripper.
3	Output (SEL0, SEL1)=(OFF, ON) and move the gripper.
4	Output (SEL0, SEL1)=(ON, ON) and move the gripper.

Monitor Signal Status *13

GRIP_ERR	When the robot recognizes the grip error signal output by the gripper, it lights green.
ALARM	When the robot recognizes the alarm signal output by the gripper, it turns green. When solid green, the gripper does not accept operation commands and remains stopped.
READY	Solid green when the gripper completes the opening and closing operation.

***12**

If you do not select SEL1 for input signal 2 in the Advanced Settings tab, SEL1 will not be output. There is a restriction so that you cannot tap numbers 3 and 4.

***13**

Signals that are not selected in input/output signals 3 and 4 of the Advanced Settings tab will remain off without monitoring.

7.3. Job function

7.3.1. ASPINA_GRIPPER_MOVE

Function Name

ASPINA_GRIPPER_MOVE(MOVE_Command_No, DI2_Func_No, DIO3_Func_No, DIO4_Func_No, Wait_Type, Timer_Seconds, Grip_Check_Ena)

Argument

MOVE_Command_No	Integer type	0 ...	SEL0 output OFF
		1 ...	SEL0 output ON
		2 ...	SEL0 output OFF, SEL1 output ON
		3 ...	SEL0 output ON, SEL1 output ON
		4 ...	Alarm/grip error monitoring only
DI2_Func_No	Byte type	0 ...	Assign SEL1 to OT# (8)
		1 ...	Assign ALM_RST to OT#(8)
DIO3_Func_No	Byte type	0 ...	Assign ALARM output to IN#(7)
		1 ...	Assign GRIP_ERR output to IN# (7)
		2 ...	Assign READY output to IN#(7)
DIO4_Func_No	Byte type	0 ...	Assign ALARM output to IN#(8)
		1 ...	Assign GRIP_ERR output to IN# (8)
		2 ...	Assign READY output to IN#(8)
Wait_Type	Byte type	0 ...	No waiting
		1 ...	Waiting for READY signal
		2 ...	Wait for Timer_Seconds time
Timer_Seconds	Integer type	Specify Wait Time (YRC1000: in units of 10 ms) (YRC1000micro: in milliseconds)	
Grip_Check_Ena	Byte type	0 ...	Gripping check enabled
		1 ...	Gripping check disabled

Return value

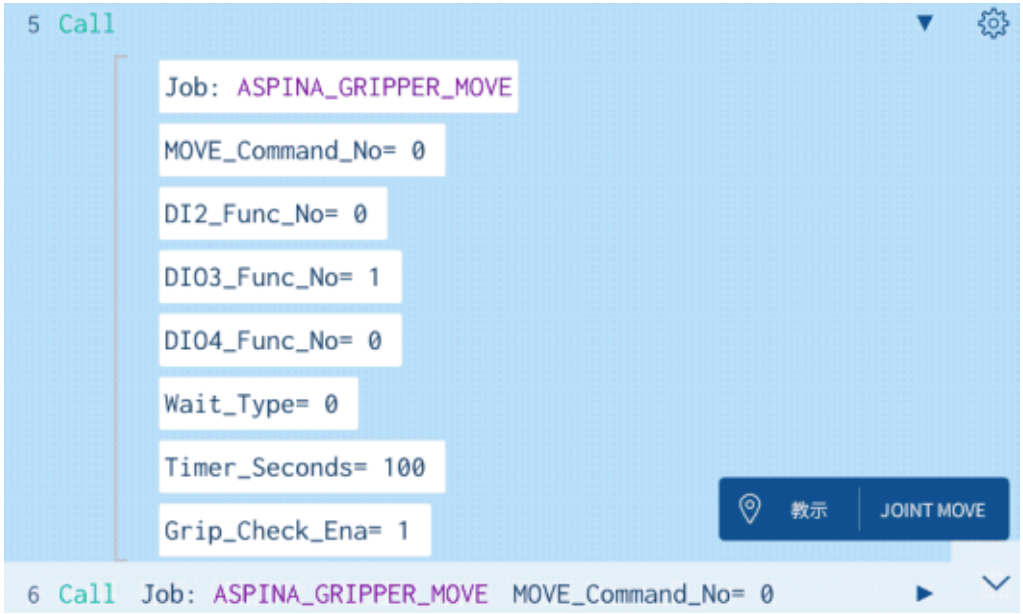
without

Behavior

- It is a function that performs operation commands and condition monitoring on the gripper using the general input / output signal of the robot.
- The MOVE_Command_No selects the signal to be output from the robot, and the gripper opens and closes according to the input signal.
- In DI2_Func_No, DIO3_Func_No, and DIO4_Func_No, select the function you want to assign to the robot's general outputs 8 and general inputs 7,8. If it does not match the input/output signal function setting on the gripper side, it will not operate normally.
- Under Wait_Type, select a wait condition. However, if MOVE_Command_No = 4, only gripper condition monitoring is performed, so the wait is omitted.
- Wait_Type = 1 and you wait for signal monitoring, but to wait on the READY signal DIO3_Func_No you must assign READY to either or DIO4_Func_No.
- Only Wait_Type = 2 Timer_Seconds are enabled. The Timer_Seconds is an argument that specifies the amount of latency, but the units vary depending on the controller used.
- In the Grip_Check_Ena, select Enable or Disable Gripping Check. To perform a grip check DIO3_Func_No you must assign a GRIP_ERR to either the or DIO4_Func_No.

Example

CALL JOB:ASPINA_GRIPPER_MOVE(0,0,1,0,0,100,1)



7.4. Explanation of terms

term	explanation
SEL0 Signal	The signal name of the robotic gripper. When the gripper senses an input signal, it moves its toes according to the operating parameters inside the gripper.
SEL1 Signal	
ALM_RST signal	The signal name of the robotic gripper. Since operation instructions are not accepted when the gripper stops abnormally, it can be restored to the normal state by turning on the ALM_RST once and turning it off.
GRIP_ERR signal	The signal name of the robotic gripper. If the workpiece fails to grasp and the toe position reaches within the grip error output range, a signal is output. You can adjust the range of the position where the GRIP_ERR signal is output with parameters.
ALARM signal	The signal name of the robotic gripper. After the power is started, a signal is output if it is normal. When the gripper detects an abnormality, the signal is turned off.
READY signal	The signal name of the robotic gripper. When the gripper starts operating, the signal becomes OFF and turns ON when the operation is completed. It can be used as a wait condition for a gripper in a job.
Alarm Detection	It is one of the protection functions that interrupt the program of the robot. If the gripper detects an abnormality, the ALARM signal stops the output, so if the robot detects a change in the ALARM signal during job execution, it will be interrupted.

term	explanation
Gripping check	It is one of the protection functions that interrupt the program of the robot. After the gripper starts and waits for the opening and closing motion, when the robot detects a GRIP_ERR signal, it determines the gripping failure and stops.

8. Robotic gripper adjustment method

By using a dedicated application for robotic grippers, the opening and closing position, opening and closing speed and gripping force of the gripper can be finely adjusted. If you want to perform an operation other than full closure or full opening, or if you want to change the strength of the gripping force, please use a computer to pre-teach before attaching the gripper to the robot.

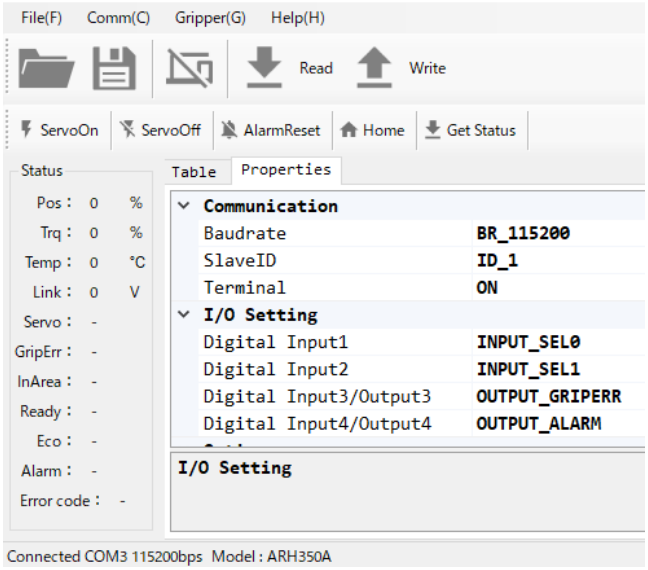
For information on how to obtain a dedicated application, please contact us.
In addition, a USB to RS485 converter is required separately to connect the PC and the gripper, so please contact us at that as well.

8.1. Installing RoboticGripperSetup

Unzip the compressed file and select "AspinaRoboticGripperSetup.exe" to launch it.
No installation is required.

8.2. Gripper input/output signal setting

Regarding the function setting of the input/output signal on the gripper side, be sure to assign "INPUT_SEL0" to input 1.
If you want to use operation instructions 3 and 4, assign "INPUT_SEL1" to input 2, and assign "INPUT_ALMRST" to input 2 if you want to abnormally recover the gripper from the smart pendant.
For input/output 3 and input/output 4, "OUTPUT_GRIPERR", "OUTPUT_ALARM", "OUTPUT_READY" Please select two of them and set them.



8.3. Gripper opening and closing operation setting

Please adjust the parameters of operation number 0~3 with the dedicated application.
The operation number 0~3 is the setting parameter of operation instruction 1~4.
(If you want to use operation instructions 3 and 4, assign INPUT_SEL1 to digital input 2)

For details, please check the "RoboticGripperSetup Quick Start Manual".

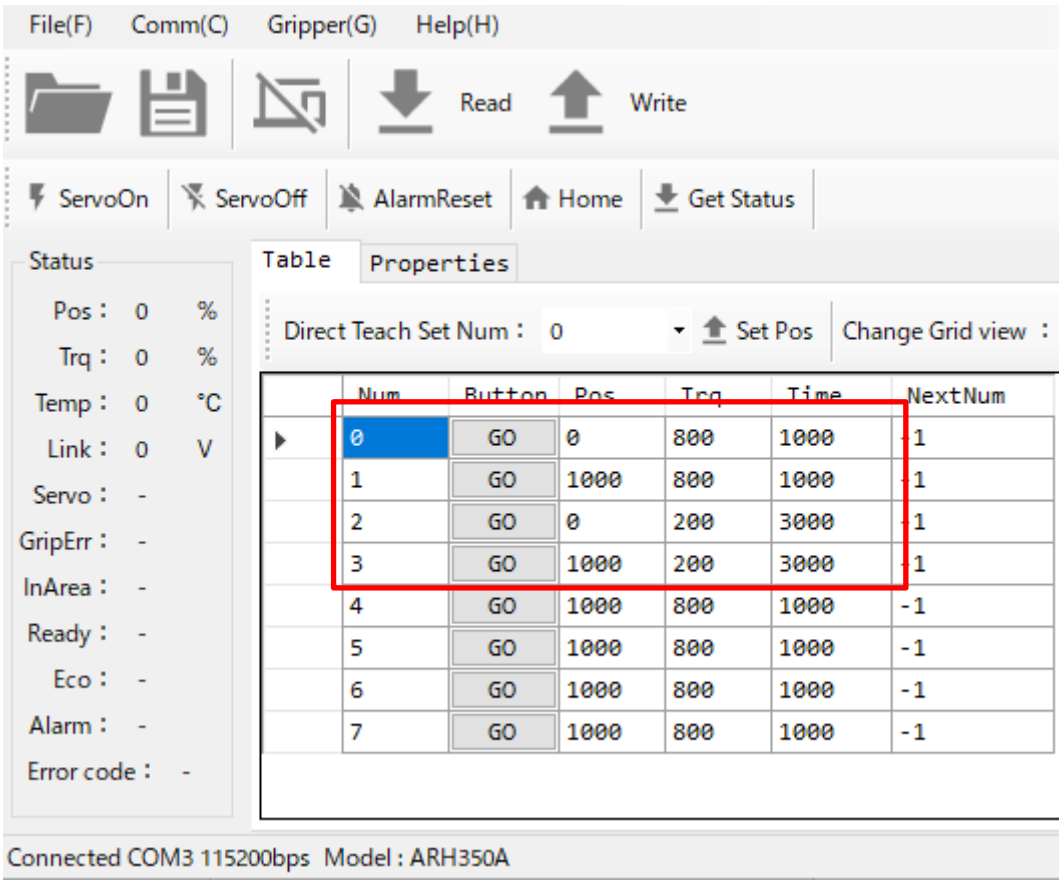


Table 1 of Robotic gripper Operation Parameter Setting

Driving number	Target position	torque	Operating time	Target operation
0	0.0%	80.0%	0.900 sec	Operation instruction 1
1	100.0%	80.0%	0.900 sec	Operation instruction 2
2	0.0%	20.0%	3.000 sec	Operation instruction 3
3	100.0%	20.0%	3.000 sec	Operation instruction 4

8.4. Gripping check range setting

Please adjust the parameters of operation number 0~3 with the dedicated application.
The operation number 0~3 is the setting parameter of the operation instruction 1~3.

Be sure to set the range of the gripping check with "lower limit position ≦upper limit position".
For details, please check the attached "RoboticGripperSetup Quick Start Manual".

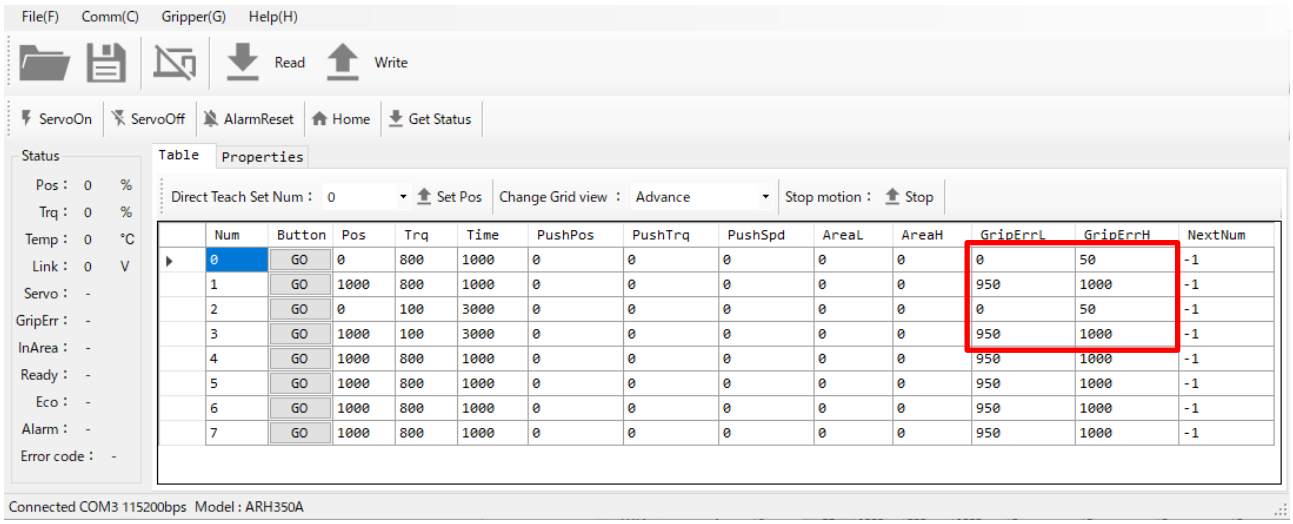


Table 2 Robotic gripper Gripping Check Range Setting Example

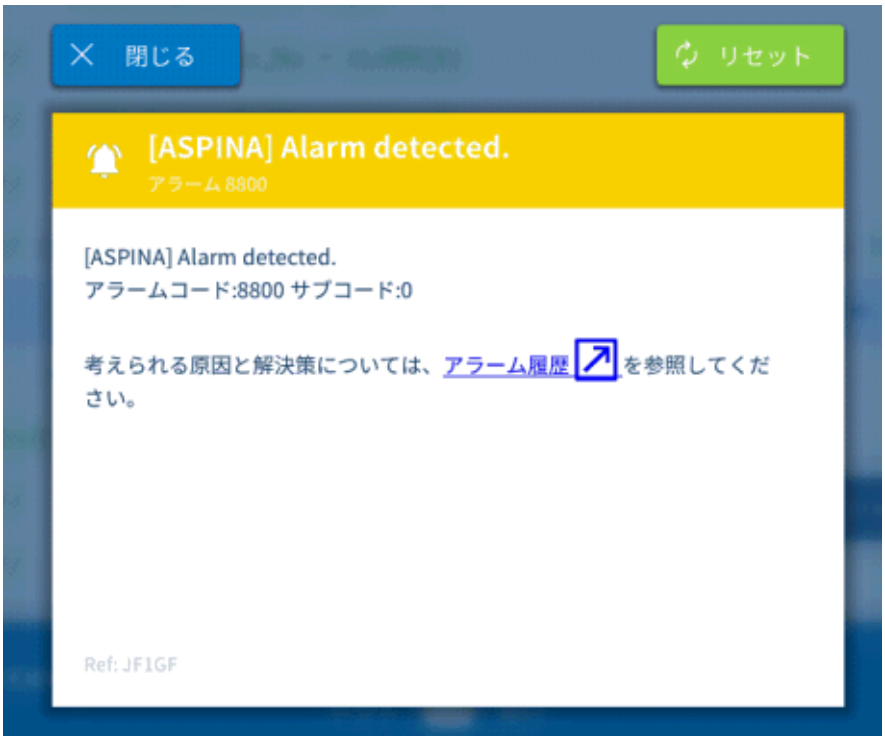
Driving number	Target position	Grip Error Range Lower Limit Position	Grip Error Range Upper Limit Position	Target operation
0	0.0%	0.0%	5.0%	Command 1
1	100.0%	95.0%	100.0%	Command 2
2	0.0%	0.0%	5.0%	Command 3
3	100.0%	95.0%	100.0%	Command 4

The gripping check is determined by the position of the toe at the time of opening and closing.
Thin workpieces and thin workpieces cannot be grasped and checked because the toe position approaches 100.0%.

9. Troubleshooting

9.1. List of alarm codes

If an anomaly is detected when the job is running, a pop-up screen is displayed.



For alarm codes and subcodes, please check the table below.

alarm code	submarine code	indication	substance
8800	7	[ASPINA] Alarm detected.	Gripper detected an error and output an alarm signal. [Countermeasure] - Check the number of times the pilot lamp of the gripper blinks, remove the cause of the alarm, and perform the alarm reset operation from the gripper control panel. - If the pilot lamp is green, check the wiring between the robot and the controller.
8800	8	[ASPINA] Alarm detected.	
8801	7	[ASPINA] Grip error detected.	Gripper detected a grip failure and output a grip error signal. [Countermeasure] - Please adjust the position of the workpiece or the posture of the robot arm. - If you want to close the hand without griping the workpiece, select "Grip Error Check = Disable" for the "Select grip check enable/disable" in the Insert commands panel.
8801	8	[ASPINA] Grip error detected.	

9.2. Symptoms and measures

symptoms	Key Factors	countermeasure
Tapping a number from the gripper control panel doesn't work	Incorrect wiring	Refer to 4.2, connect the controller outputs OT0007 and OT0008 to the gripper side.
Alarm pop-up appears when running a job	The gripper is abnormally stopped	Check the number of times the pilot light flashes while referring to the Robotic gripper instruction manual, remove the cause of the abnormality, reset the alarm, or restart the power.
	Incorrect wiring	Refer to 4.2, controller inputs IN0007 and IN0008 to receive the output of the gripper side.
When the job is executed, a gripping failure pop-up is displayed	The gripper is failing to take the workpiece	Please review the place of the workpiece or the posture of the robot. Test before running the job.
	Incorrect wiring	Refer to 4.2, controller inputs IN0007 and IN0008 to receive the output of the gripper side.
When the job is executed, a gripping failure pop-up is displayed	Incorrect gripper settings	Refer to Section 8.2 to ensure that the settings for each terminal in the dedicated application match the input/output settings on the Advanced Settings tab displayed on the pendant.

10. Release notes

10.1. AspinaGripperExtension version 0.0.1 beta

β Version First Edition

10.2. AspinaGripperExtension version 0.0.2 beta

Specification change

- If ALM_RST was selected for DI2 in the advanced settings, change the signal not to output from the generic output 8 when the button is tapped on the gripper control panel.

Bug fixes

- Modify the job function ASPINA_GRIPPER_MOVE to a form that the robot can take in.

10.3. AspinaGripperExtension version 0.0.3 beta

Specification change

- Change the alarm code for alarm detection in job function ASPINA_GRIPPER_MOVE
- Add a tool preset to a YIP component

Bug fixes

- Corrected a mistake when ALM_RST was selected for DI2 in the advanced settings, the signal was output from the general output 8 on Nos. 1 and 2 of the gripper control panel.

10.4. AspinaGripperExtension version 0.0.4 beta

Specification change

- Update text when viewed in Japanese system settings
- If the output signal of the gripper does not have READY in the advanced setting, the wait for operation completion by the ready signal can not be selected.
- If there is no GRIP_ERR in the output signal of the gripper in the advanced setting, the permission of the gripping check is not selectable.

Bug fixes

- Fixed a mistake that even if ALM_RST was selected for DI2 in the advanced settings, the buttons 3 and 4 were enabled in the utility screen

10.5. AspinaGripperExtension version 0.0.5 beta

Specification change

- Change the gripper icon to 3 claw gripper
- Added a function that allows you to specify the tool number for each operation instruction number in advanced settings.

Bug fixes

- Fixed a mistake that the command addition tab side was enabled even if READY was not in the output signal of the gripper after starting the robot
- After starting the robot, fix the mistake that the command addition tab side is enabled even if there is no GRIP_ERR in the output signal of the gripper
- By processing the robot side identifying the signal output of the gripper, the mistake that the logic (ON, OFF) was reversed was corrected.

10.6. AspinaGripperExtension version 0.0.6 beta

Specification change

- While the gripper panel is closed, stop processing to monitor the output signal from the gripper

10.7. AspinaGripperExtension version 0.0.7 beta

Specification change

- Updated the help screen displayed when you tap the i button on the panel

10.8. AspinaGripperExtension version 0.0.8 beta

Specification change

- Change the security access level on the Advanced tab to "MANAGE"

10.9. AspinaGripperExtension version 0.1.0 beta

Bug fixes

- Fixed a mistake that was set by 10 times if the latency was set to 1 second with YRC1000
- Fixed a mistake that was set to 1/10 of a second when the latency was set to 1 second with YRC1000 micro

10.10. AspinaGripperExtension version 0.1.2 beta

Bug fixes

- Undo the process implemented in version 0.0.5 for the robot to identify the output signal of the gripper

10.11. AspinaGripperExtension version 0.1.3 beta

Bug fixes

- Fixed a mismatch between the installer version and the extension version of the YIP package

10.12. AspinaGripperExtension version 1.0.0

- Genuine Version First Edition

11. Revision history

date	edition	substance
2022/01/21	0.00.1	Create a version β the setup guide
2022/01/26	0.00.2	Section 4.2 Adding Wiring Diagrams Section 7.1.3, Advanced Configuration Defaults Section 10.2 Release notes added 0.0.2
2022/02/01	0.00.3	Section 7.3.1 Added Job Function Operation Specification Section 9.1 Updated list of alarm codes Section 10.3 Release notes added 0.0.3.
2022/02/14	0.00.4	Section 1.2 Modify the Model Number of the Prepared Option Section 5.2 Removing Electrical Interface Settings Section 7.1.1 Modified Panel Headings to Japanese Section 7.1.1 Added notes about SEL1 signals. Section 7.1.2 Modification of each choice to Japanese notation Section 7.1.2 Added Latency Notes. Section 7.1.3 Fixed I/O Configuration Headings to Japanese Section 7.1.3 Added notes on I/O configuration. Section 7.2 Utility Headings Modified to Japanese Section 7.3.1 Adding Job Display Images Chapter 8 Adding a description of the setting app Section 9.1 Added Alarm Code Display Image Section 10.4 Release notes 0.0. Add 4
2022/03/25	0.00.5	Chapter 6 Added operation instructions Chapter 8 Adding how to use the dedicated application Section 10.5 Release notes Added 0.0.5.
2022/05/10	0.00.6	Section 5.1 Adding Installation Instructions Section 10.6 Release notes added 0.0.6.
2022/06/08	0.00.7	Section 5.3 Added description of the Advanced Settings tab Section 10.7 Release notes added 0.0.7.
2022/06/20	0.00.8	Section 4.2.1 Added Description of NPN Signal Converter. Section 5.2 Added description of tool preset settings. Section 10.8 Release notes Added 0.0.8
2022/06/27	0.01	Section 10.9 Release notes Added 0.1.0
2022/07/12	0.01.1	Section 4.2 Modify the Wiring Image Section 6.4 Added Description of Direct Teach Section 9.2 Symptoms and Countermeasures Updated

date	edition	substance
2022/07/14	0.01.2	Section 10.10 Release notes Added 0.1.2 Section 4.2.1 Fixed the description of NPN signal converters.
2022/07/28	0.01.3	Section 10.11 Release notes Added 0.1.3
2022/08/05	1.00	Section 10.12 Release notes Added 1.0.0
2022/09/27	1.00.1	Section 4.2.1 Moved wiring diagram including signal converter to section 4.2.1
2022/10/03	1.00.2	Added the Plug & play kit logo on the cover
2023/02/15	1.00.3	Chapter3 Corrected e-mail address. Section 9.1 Added measures to alarm code.