

Operating instructions

Kitagawa URCaps



Warning

- This instruction manual is written for production engineers and maintenance personnel who are responsible for operating the product. If you are a beginner, please be sure to seek guidance from an experienced person, your dealer, or our company.
- Before using or maintaining this product, carefully read and understand the warnings in this manual before proceeding. Failure to follow the instructions and warnings in this manual may result in serious personal injury, death, or property damage.
- Please keep this manual in a designated place where you can easily access it, reread it whenever necessary, and use it for many years to come.
- If you have any questions or concerns about the contents of this manual, please contact the vendor.

Preface

This is an application instruction manual that can only be used when our gripper is installed on a Universal Robots collaborative robot. Before using this application, please be sure to read this instruction manual carefully and understand how to operate the application. To install this app, please follow the Universal Robots Startup Guide.

<Recommended polyscope version>

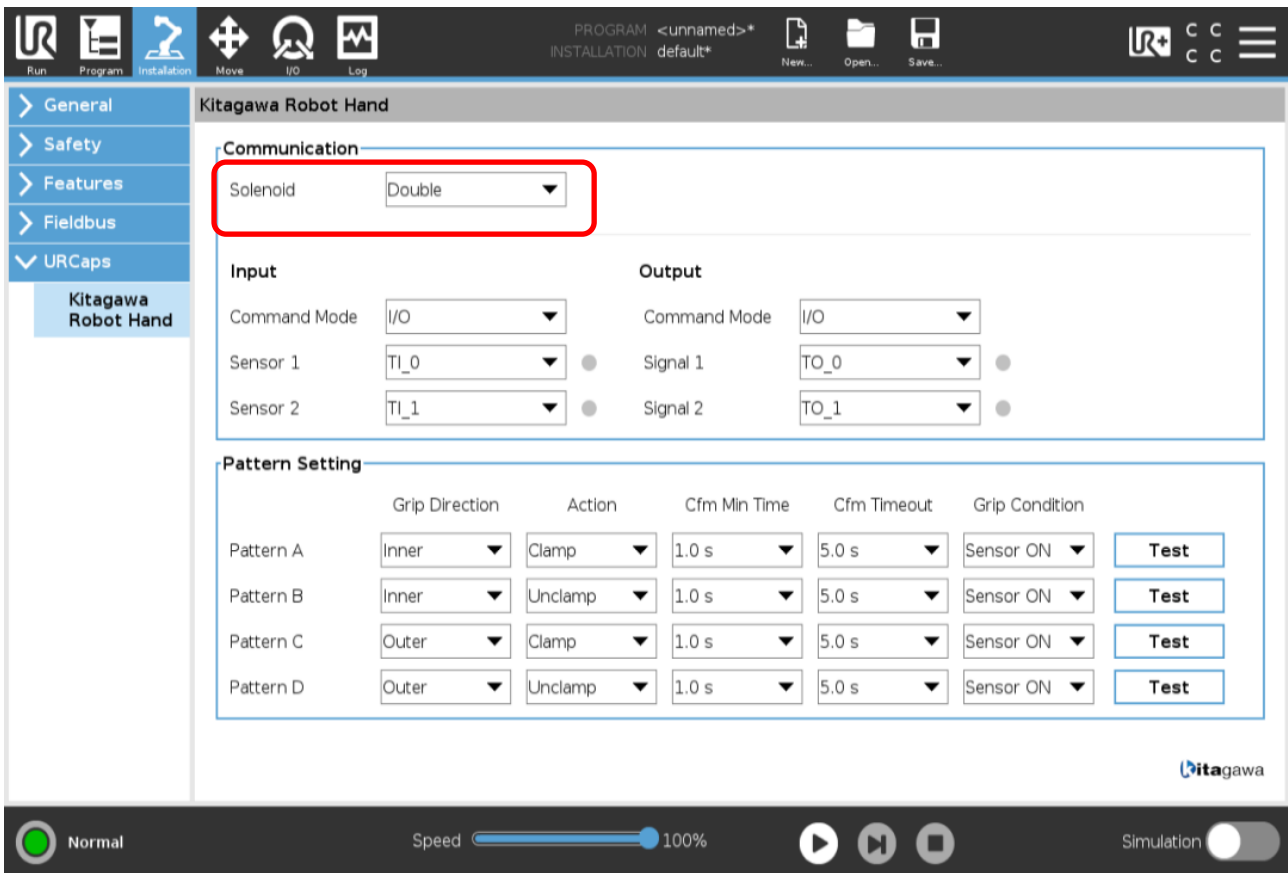
Ver. 5.11 or higher

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1. Installation settings

1 – 1. Solenoid valve selection



-You can select the solenoid valve to use.

-The number of input/output points used differs between single solenoid and double solenoid, so please set them correctly.

1 – 2. I/O settings

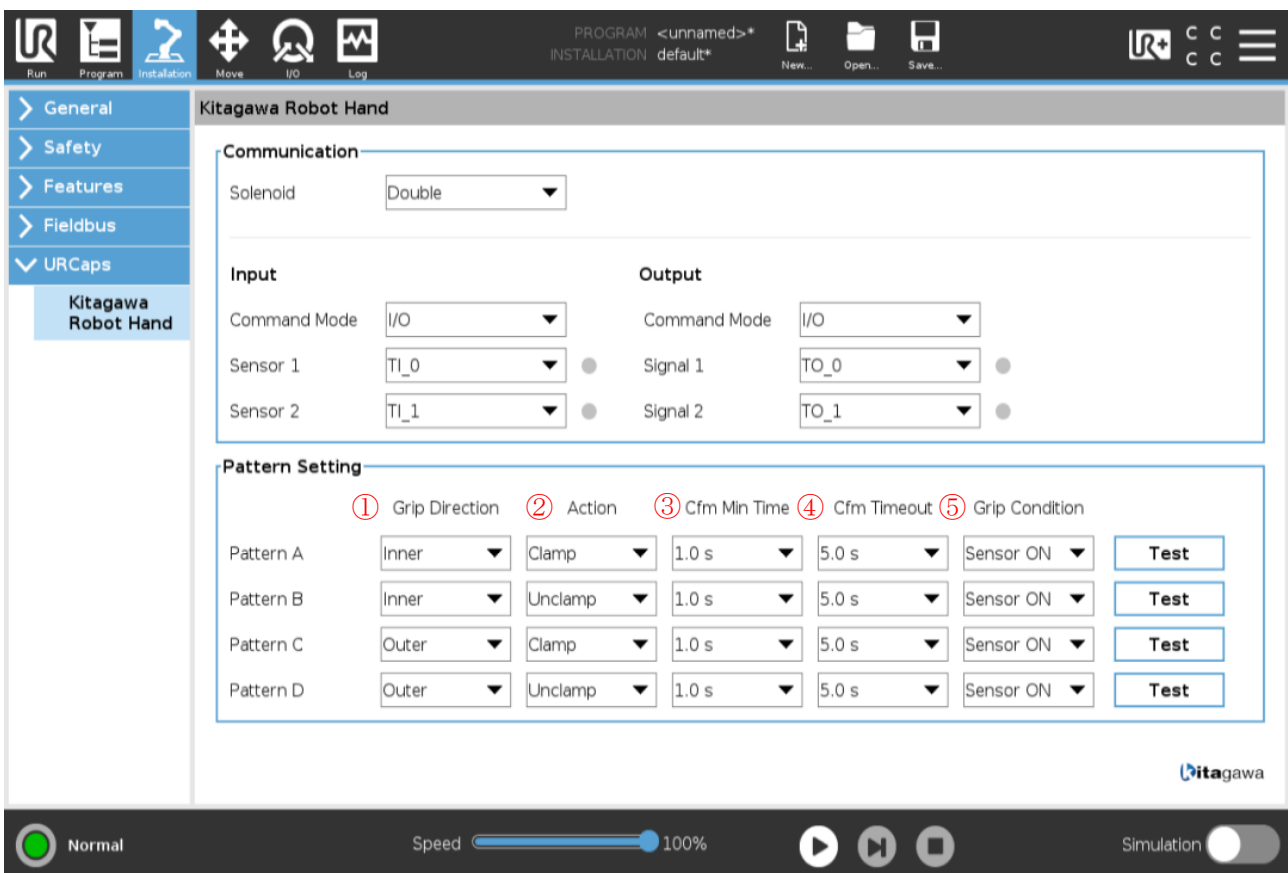
The screenshot displays the 'Kitagawa Robot Hand' software interface. The top menu bar includes 'Run', 'Program', 'Installation', 'Move', 'I/O', and 'Log'. The main window is titled 'Kitagawa Robot Hand' and contains several sections:

- Communication:** Solenoid set to 'Double'.
- Input:** Command Mode set to 'I/O'. Sensor 1 is set to 'TI_0' and Sensor 2 is set to 'TI_1'. These two rows are highlighted with a red box.
- Output:** Command Mode set to 'I/O'. Signal 1 is set to 'TO_0' and Signal 2 is set to 'TO_1'. These two rows are highlighted with a red box.
- Pattern Setting:** A table with columns for Grip Direction, Action, Cfm Min Time, Cfm Timeout, and Grip Condition. It lists four patterns (A, B, C, D) with their respective settings and 'Test' buttons.

At the bottom of the interface, there is a status bar with a 'Normal' indicator, a 'Speed' slider set to 100%, and a 'Simulation' toggle switch.

- Select and set from the drop-down list according to the solenoid valve and reed switch connected to the digital I/O terminal block in the controller box.
- On this screen, if the power is on, the lamp will light to indicate the status.

1-3. Pattern setting/registration



- Up to 4 movement patterns can be registered.

① Gripping direction

✓ Inner diameter grip

✓ Outline gripping

② Solenoid valve operation

✓ Clamp

✓ Unclamp

③ Gripping confirmation time

(Time from when the clamp/unclamp command is issued until the reed switch detects it)

④ Timeout time

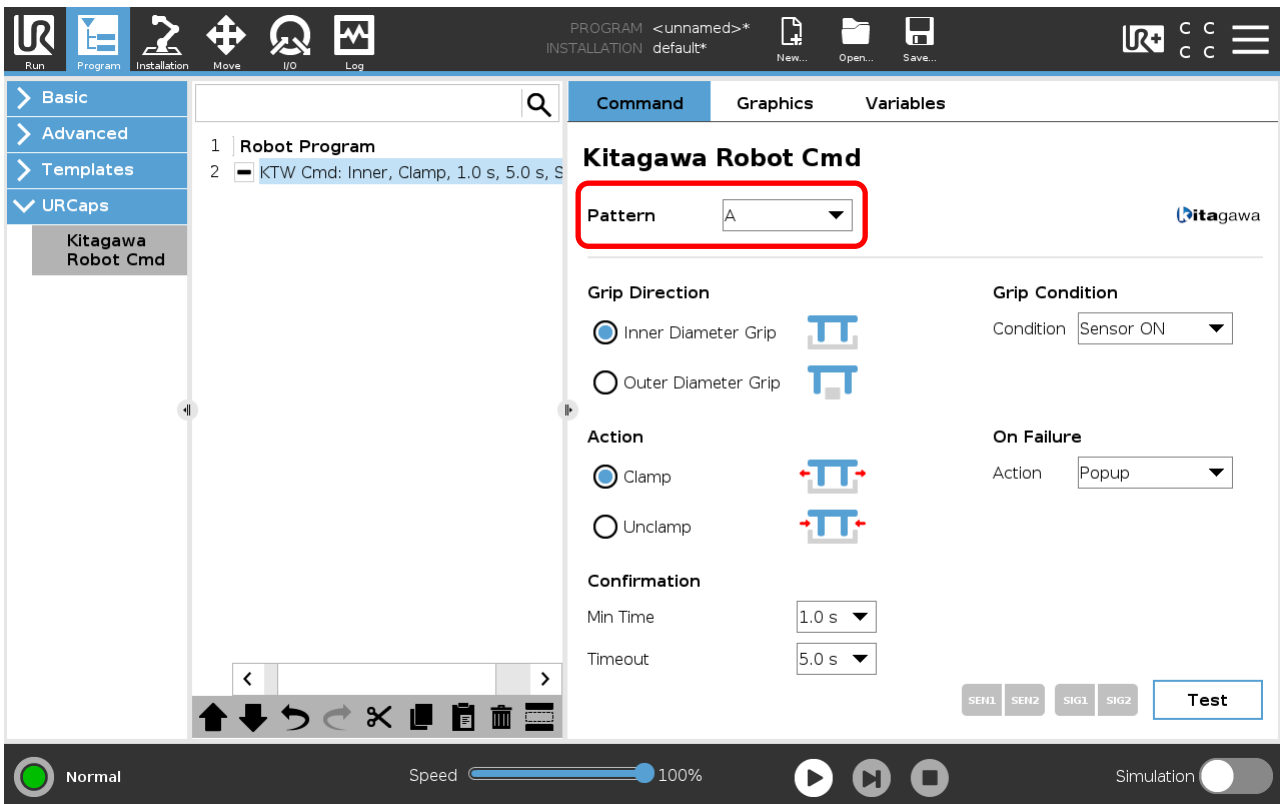
(Waiting time from when the clamp/unclamp command is issued until the reed switch detects it)

⑤ Gripping conditions

It can be used depending on whether the reed switch detects a state as positive or the reed switch does not detect a state as positive.

2. Program command settings

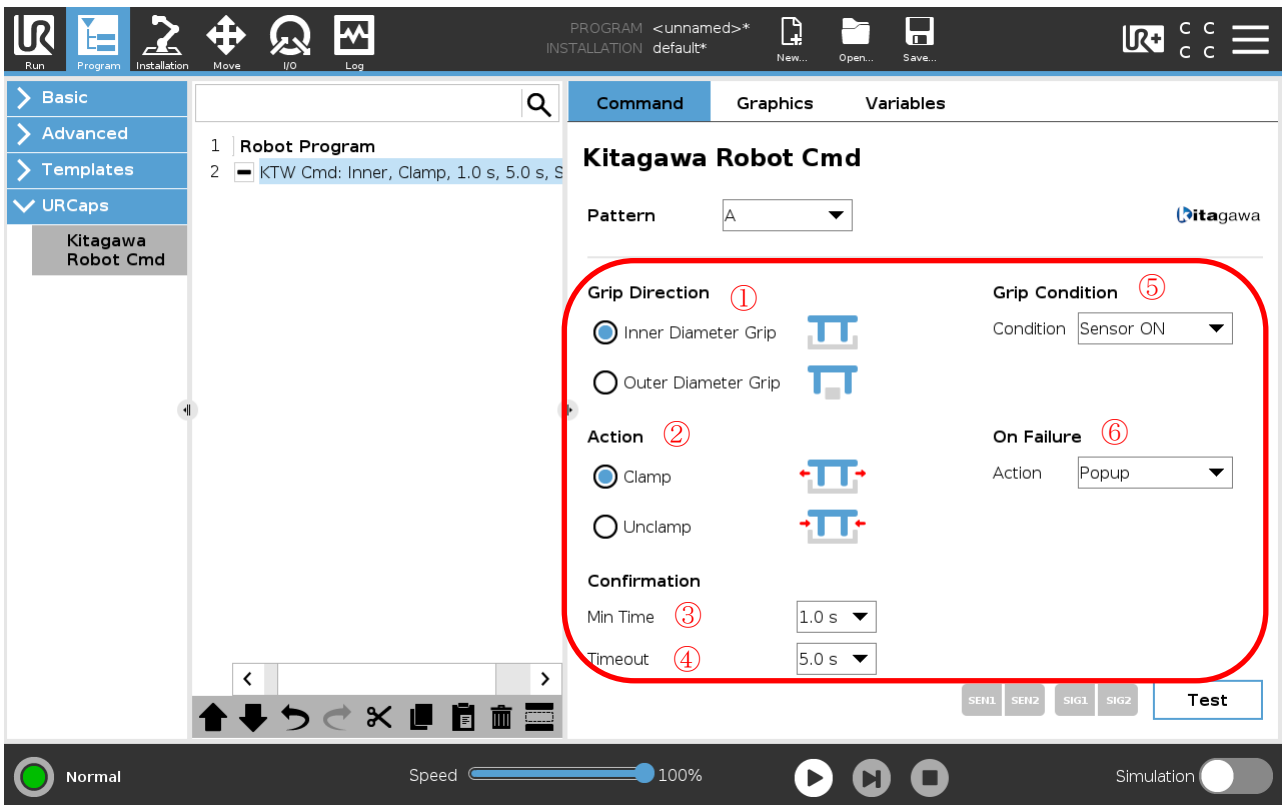
2-1. Registered pattern selection



- You can select the pattern set in “1-3” and easily set commands.

-When a pattern is selected, it will be changed to the pattern set in “1-3”.

2-2. Edit program commands



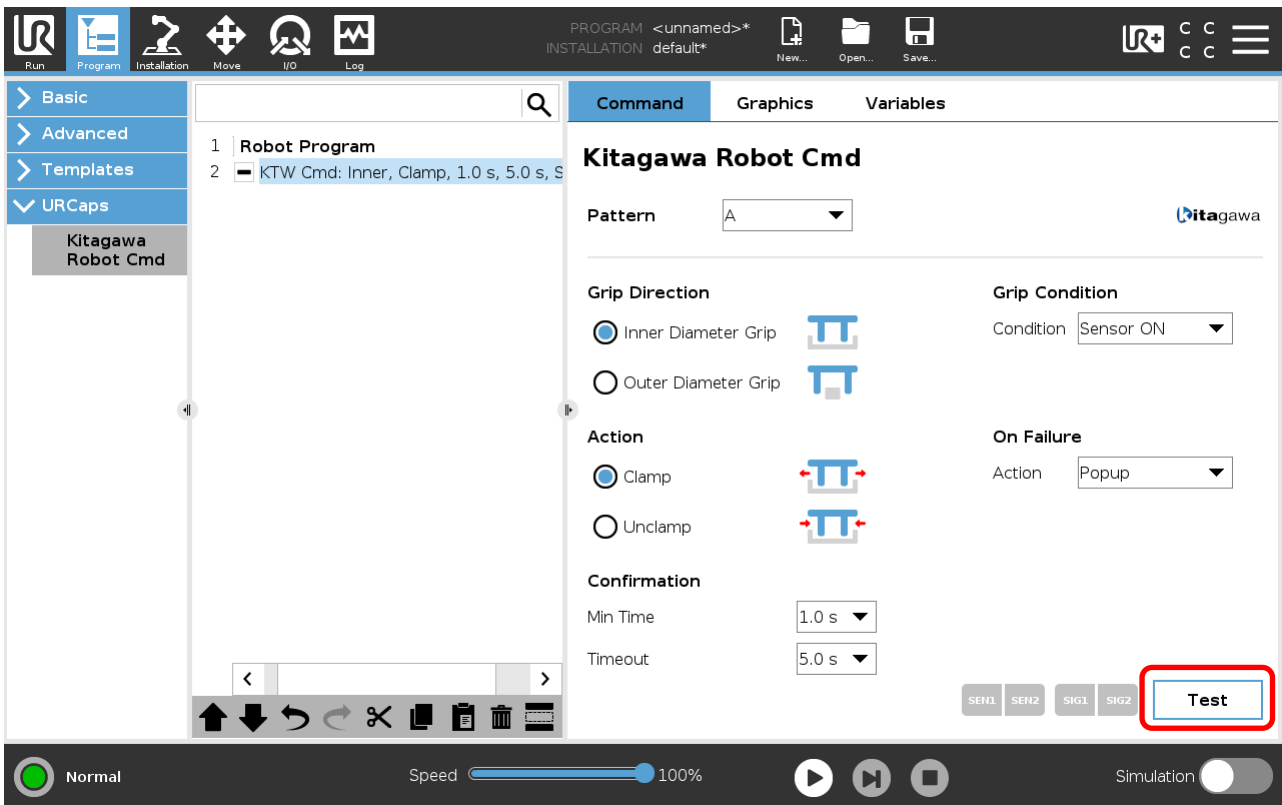
-The pattern set in "1-3" will be reflected.

-The contents of the program command can also be edited on this screen, and the contents are the same as "1-3".

-For ⑥, you can set the next action if the grip or non-grip judgment is not made.

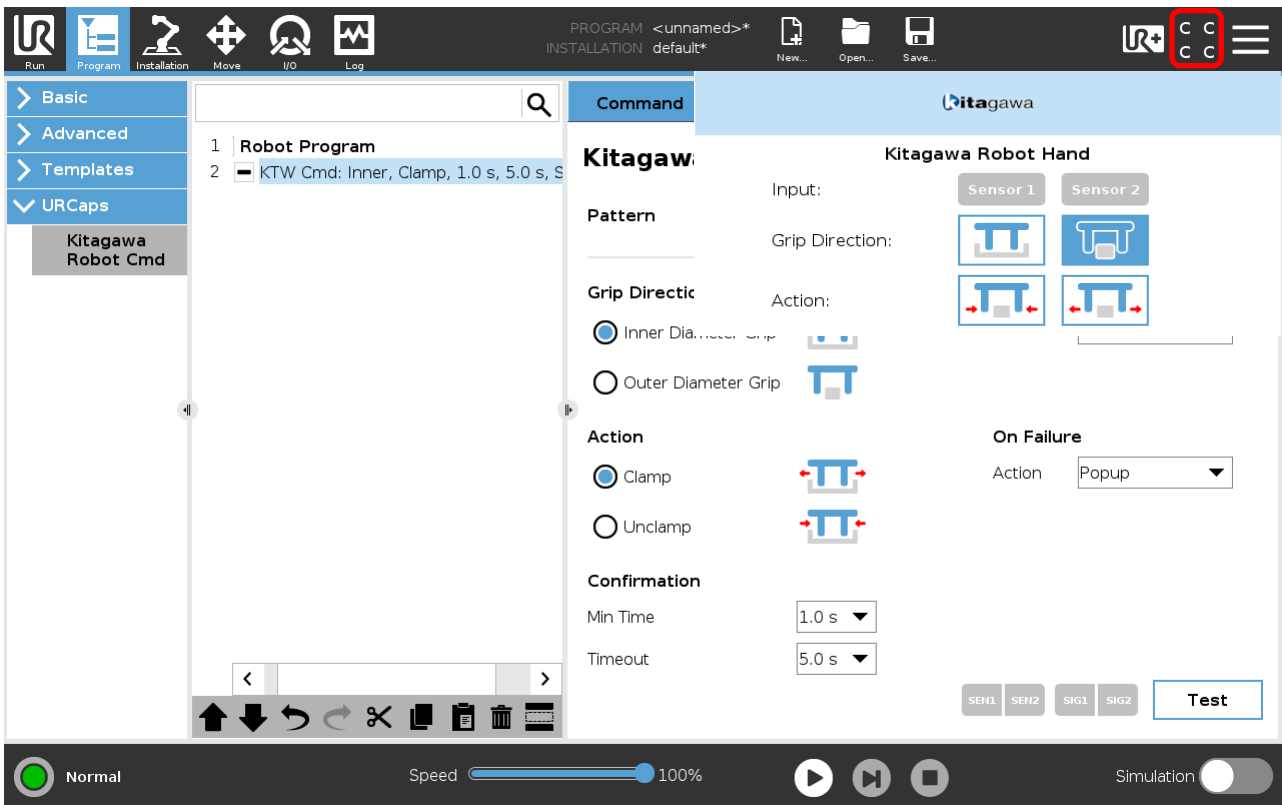
- ✓ Stop
- ✓ Pop-up display
- ✓ Signal output
- ✓ Continue

2-3. Test operation



- Performs test operation according to the set command.
- "SEN1" and "SEN2" to the left of the test button represent the reed switch signals, and "SIG1" and "SIG2" display the solenoid valve signals.

3. Manual operation



- Manual operation is possible from the hamburger menu.
- Select the operation method of “inner diameter grip” or “external grip” and press the operation button to perform the same operation as the icon.