



REACH
ROBOTICS

REACH CONTROL

USER MANUAL | V3.0

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1 INTRODUCTION

This manual is designed to provide all information required to use the Reach Control software from Reach Robotics. Reach Control is an advanced Human Machine Interface (HMI) providing intuitive control between operator and manipulator system. The software features include kinematic control and workspace definition to enable the execution of complex tasks in remote and hostile environments.

Reach Control is available in two versions. The Lite version is free of charge and covers basic operator requirements. The Pro version provides greater configurability for advanced integrators.

2 GETTING STARTED

Install the latest version of Reach Control either from the USB supplied with the product, or from the [Reach Robotics website](https://reachrobotics.com).

2.1 RC OVERVIEW

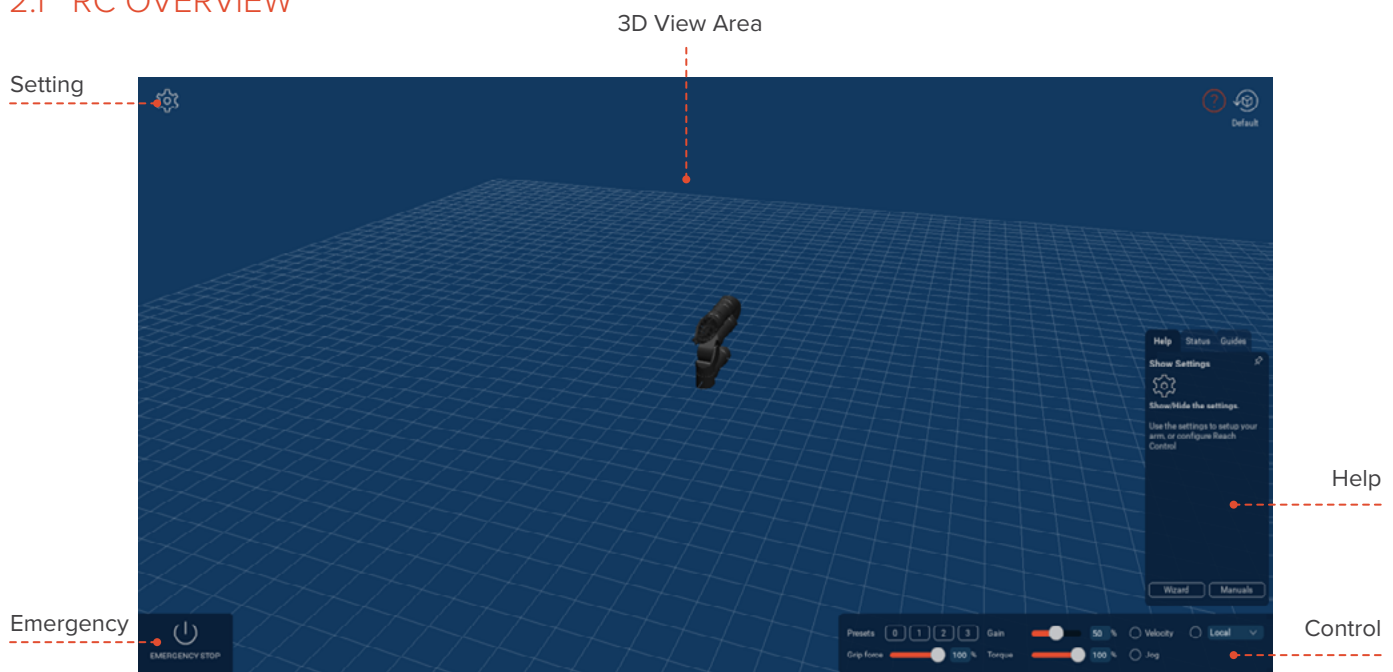


Figure 1: Reach Control overview

2.1.1 3D Visualisation View Area

The 3D View area can be navigated using a computer mouse or trackpad using the following actions:

- Right click = pan
- Left click = rotate
- Scroll wheel = zoom

2.1.2 Help Panel

The help panel displays help text relevant to the elements the mouse hovers over.

2.1.3 Emergency Stop

Selecting the Emergency stop will put the arm into a software disabled mode. It will not respond to controls but will still provide feedback (Figure 2).

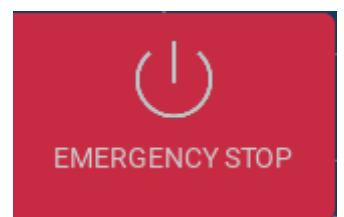












Figure 2: Emergency stop button

2.1.4 Icon Guide

	Settings: used to navigate to most functions in Reach Control		Control: create, edit, or remove your controllers.
	Help: used to toggle the Help panel.		Tools: access auxiliary tools, such as the camera stream, health panel, or software updates.
	Default: return the 3D View Area to the default view.		Display: configure the software display options.
	Port: add and modify connection ports for connecting devices.		Expand: used to expand panels.
	Device: add devices and modify device specific settings including jaw type, obstacles, and presets.		New: used to add a port, device, or controller.

2.2 SETTING UP

This section will walk through how to set up a manipulator for basic use.

2.2.1 Add a Port

A manipulator communicates with Reach Control through a port. To add a port, open **Settings** and select **Ports**.

Click the **Add** button and a new **Port** icon will appear. Select this icon and the connection panel will open. Rename the connection if desired (Figure 3).

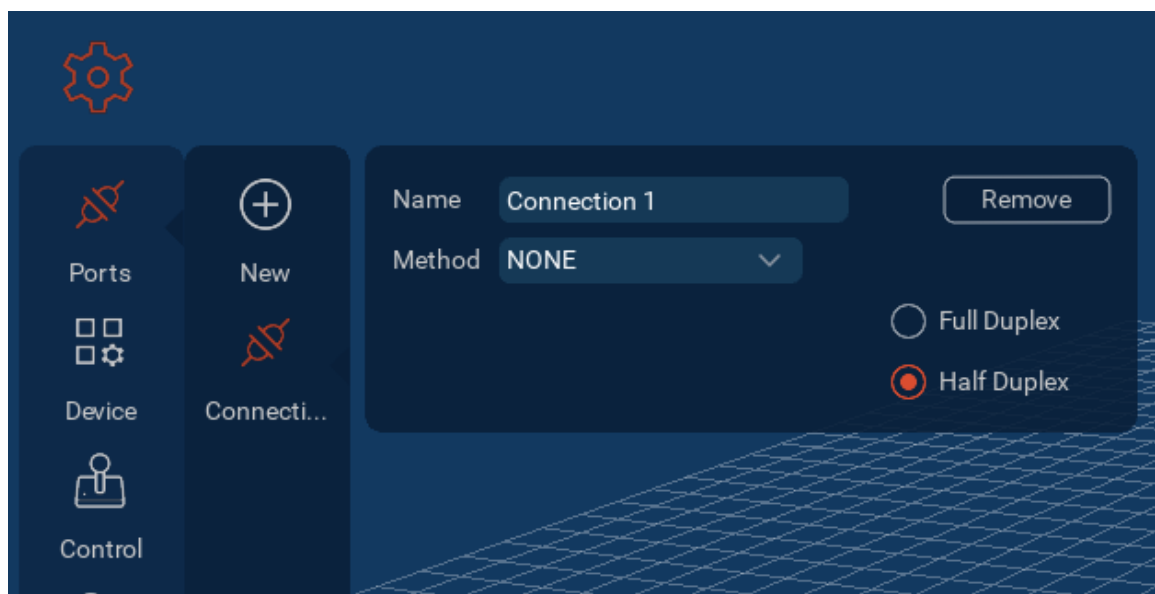
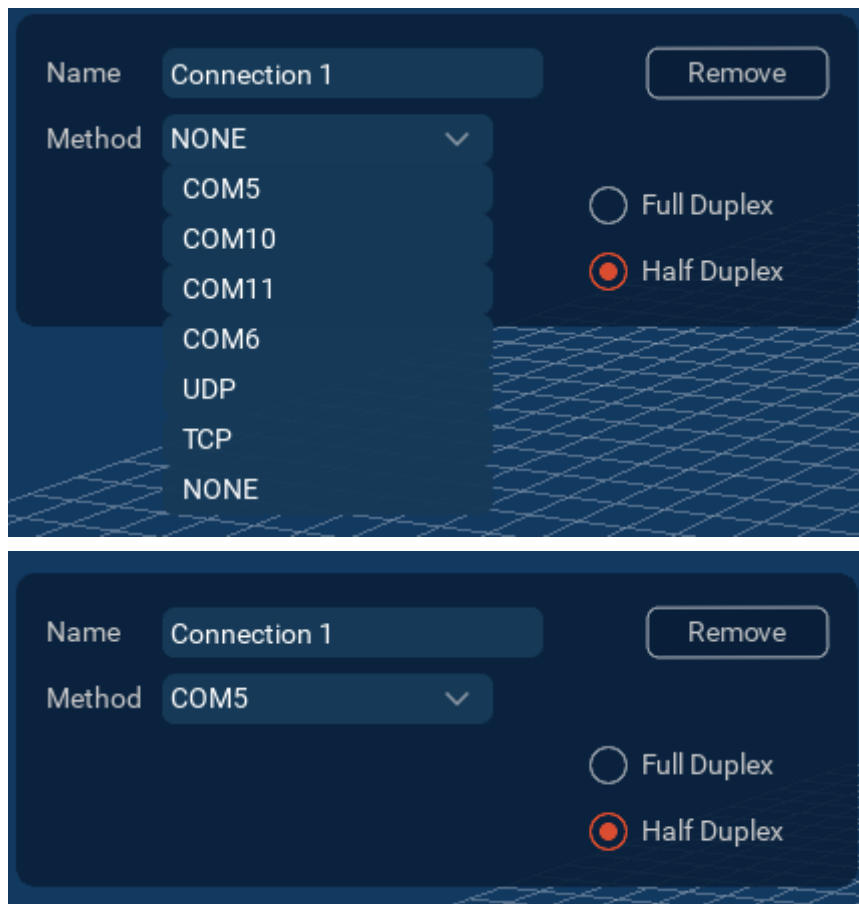


Figure 3: Adding a port

The connection method will depend on the type of device being connected and which port it is connected to on the computer.

SERIAL

To connect to a device over serial, select the appropriate COM port under Method (Figure 4).

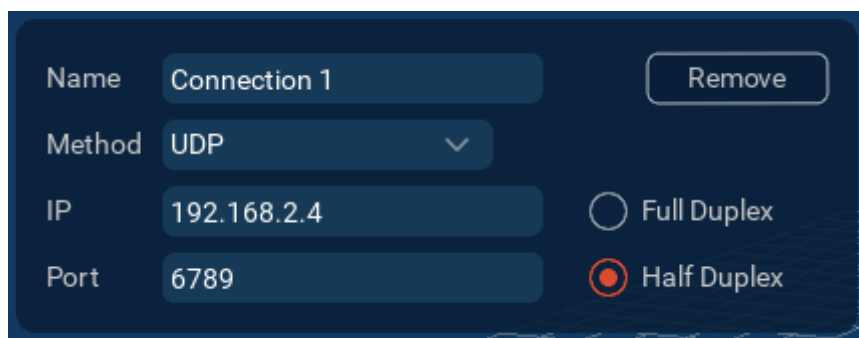


The figure consists of two screenshots of a connection configuration interface. The top screenshot shows the 'Method' dropdown menu open, displaying a list of options: NONE, COM5, COM10, COM11, COM6, UDP, TCP, and NONE. The bottom screenshot shows the 'Method' dropdown menu closed, with 'COM5' selected. Both screenshots show the 'Name' field set to 'Connection 1', a 'Remove' button, and radio buttons for 'Full Duplex' and 'Half Duplex' (selected).

Figure 4: Selecting a COM port

UDP/TCP

To connect to a device over UDP or TCP, enter the appropriate IP address and port (Figure 5).



The figure shows a connection configuration interface for UDP/TCP. It includes fields for 'Name' (Connection 1), 'Method' (UDP), 'IP' (192.168.2.4), and 'Port' (6789). There are also radio buttons for 'Full Duplex' and 'Half Duplex' (selected), and a 'Remove' button.

Figure 5: Selecting an IP address

2.2.2 Add a Device

Once the port has been added, a device can be connected. Go into the **Settings** menu and select **Device**.

By default, an Alpha manipulator will already exist under Device. To add an additional device, click the **Add** button. This will cause another manipulator model to appear in the interface. Select the **Device** icon to open the device panel (Figure 6).



Figure 6: Adding a device

In the device panel, rename the device if required. Select the port just created from the Port dropdown menu.

Select the device type from the Type dropdown menu (Figure 7).

Further settings and options for the device can be accessed by clicking the **Expand** icon. More details on the expanded device settings are provided in [Section 5](#).

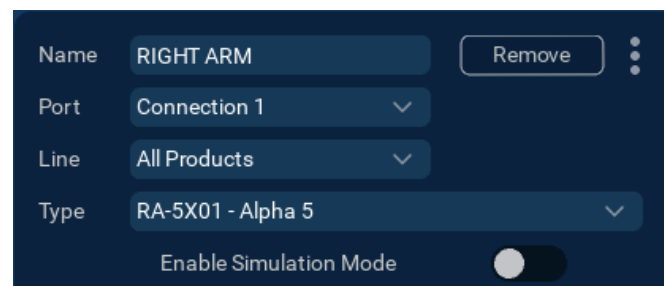


Figure 7: Adding a device

2.2.3 Checking Communication

Once the manipulator is connected to Reach Control, the position of the visualisation will match that of the physical device. The feedback panel can be opened from the display settings to show the position, velocity, and current of each joint (Figure 8, [Section 8.1](#)).



Figure 8: Feedback panel

3 CONTROLLING THE DEVICE

3.1 TYPES OF MOTION

Once the manipulator has been connected, it can be controlled through Reach Control using the **Velocity**, **Jog**, or **Kinematics** functions.

3.1.1 Joint Control

Each joint can be individually controlled using either the Velocity or Jog function.

These functions can be accessed in the control panel. Each function can be enabled by selecting the checkbox next to the label (Figure 9).



Figure 9: Joint control panel

When the **Velocity** function is selected, control arrows will appear on the manipulator model. Click and hold a control arrow to move the joint. The speed at which the joint moves can be adjusted by moving the **Gain** slider (Figure 10).

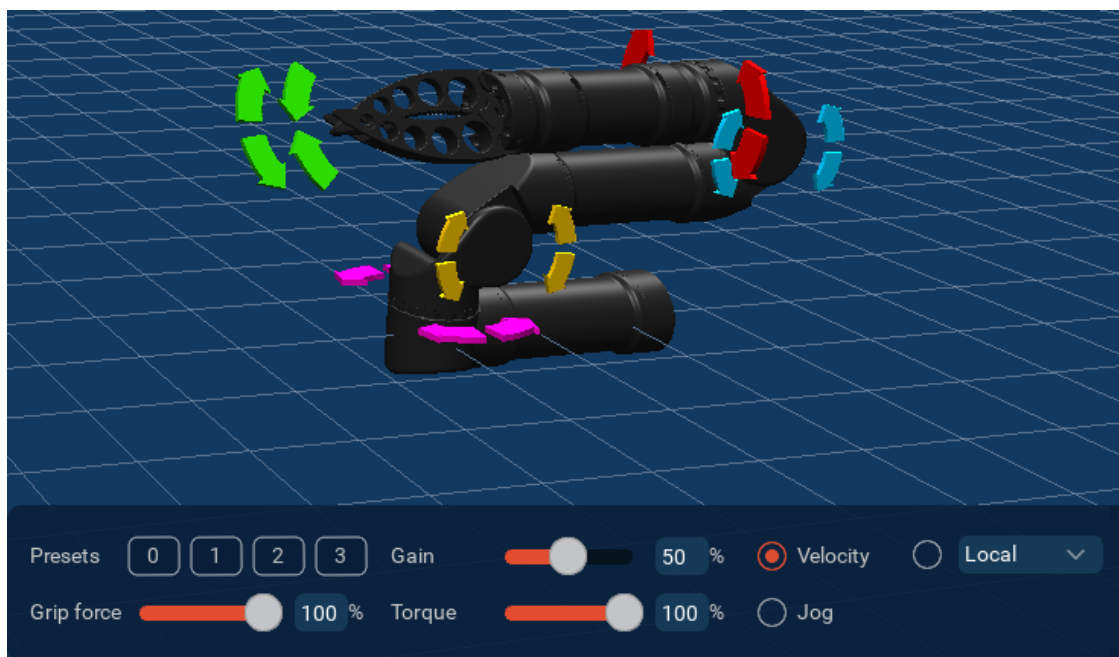


Figure 10: Velocity control of joints

When the **Jog** function is selected, the gain slider will be replaced by a **Jog Inc.** slider. This slider controls the amount in degrees that the joint will move. Click and release a control arrow to move a joint by the specified amount (Figure 11).

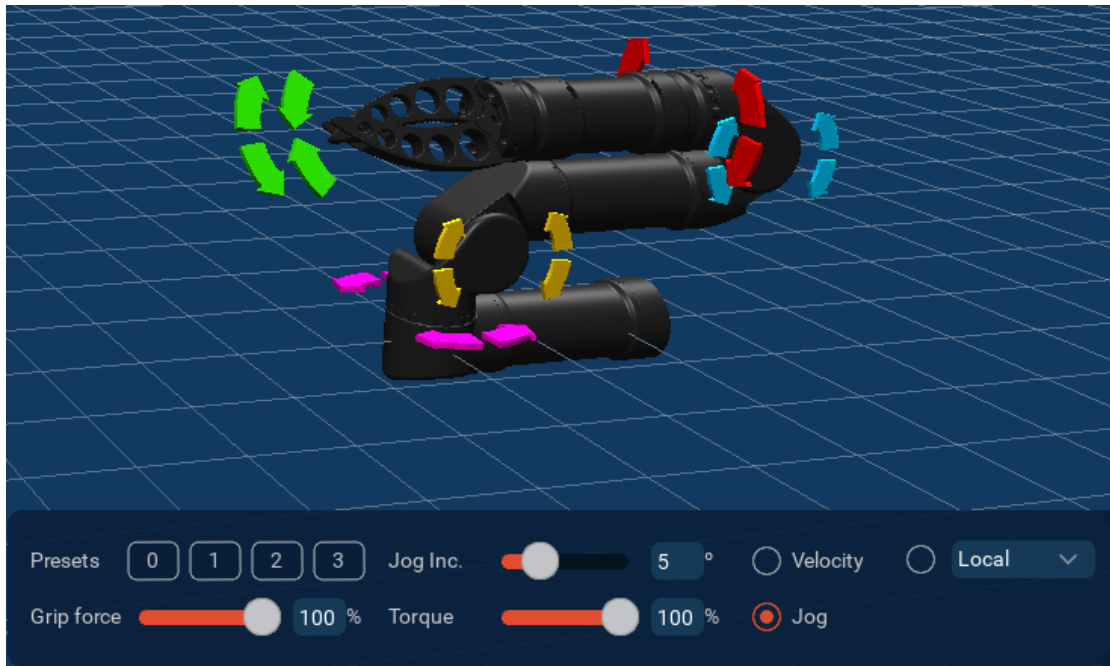


Figure 11: Jog control of joints

3.1.2 Kinematics

The kinematics function allows the manipulator to be controlled by moving the end effector, with the path of motion of each joint determined by the software. To enable the kinematics function, select a kinematics type from the dropdown, and select the checkbox next to it (Figure 12).

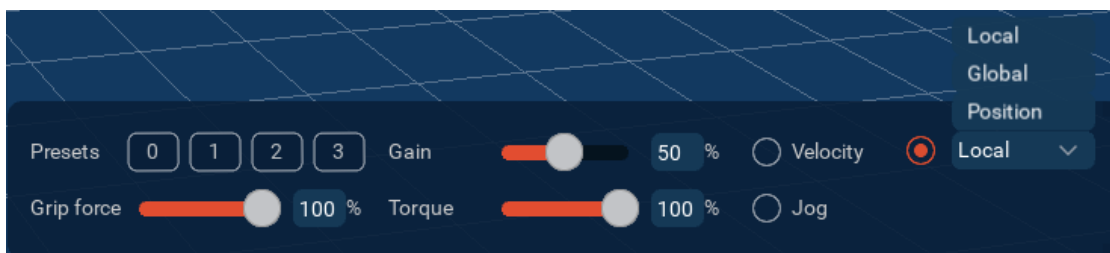


Figure 12: Kinematics control choices

In Local kinematics, the end effector will move relative to the current end effector position. The end effector can be moved using the arrow widget (Figure 13).

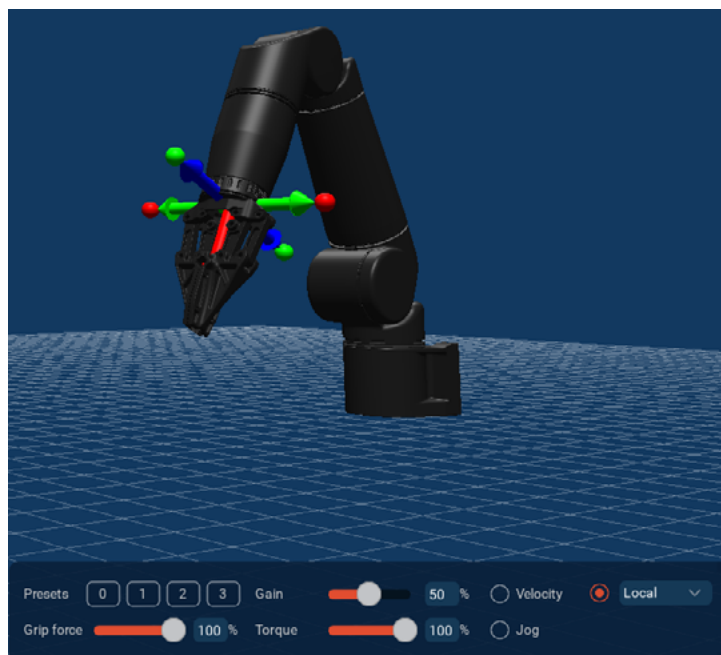


Figure 13: Local kinematics control of end-effector

In Global kinematics, the end effector will move relative to the base of the manipulator. The end effector can be moved using the arrow widget (Figure 14).

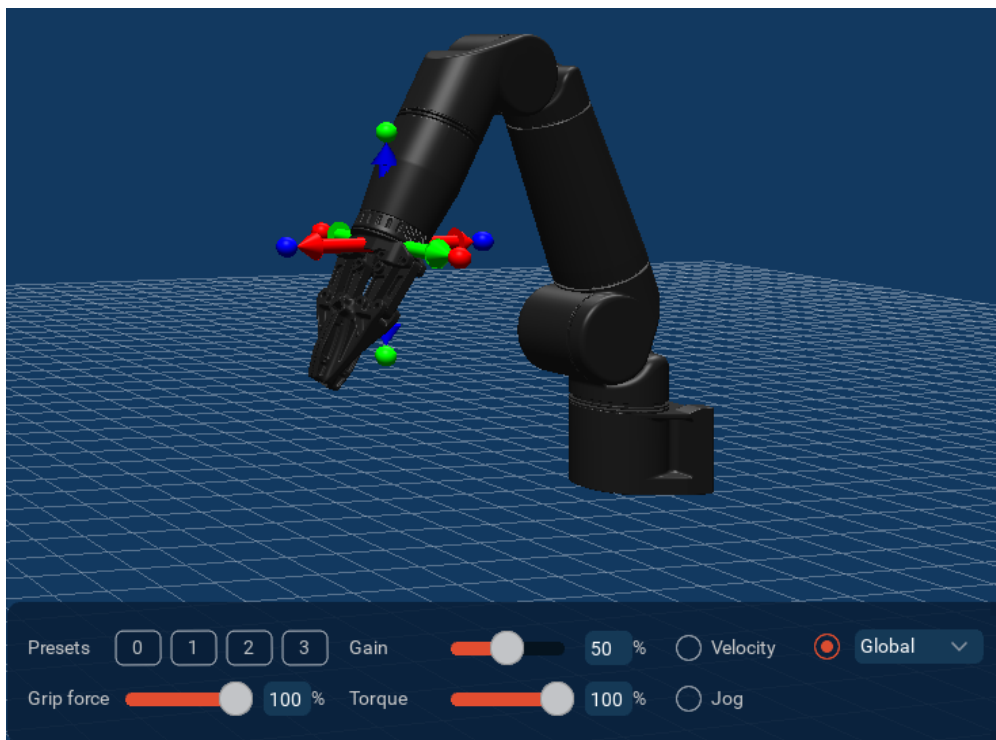


Figure 14: Global kinematics control of end-effector

In Position kinematics, the end effector can be sent to a target position. When selected, a position panel will appear next to the control panel and an axis widget will be added to the jaws (Figure 15).

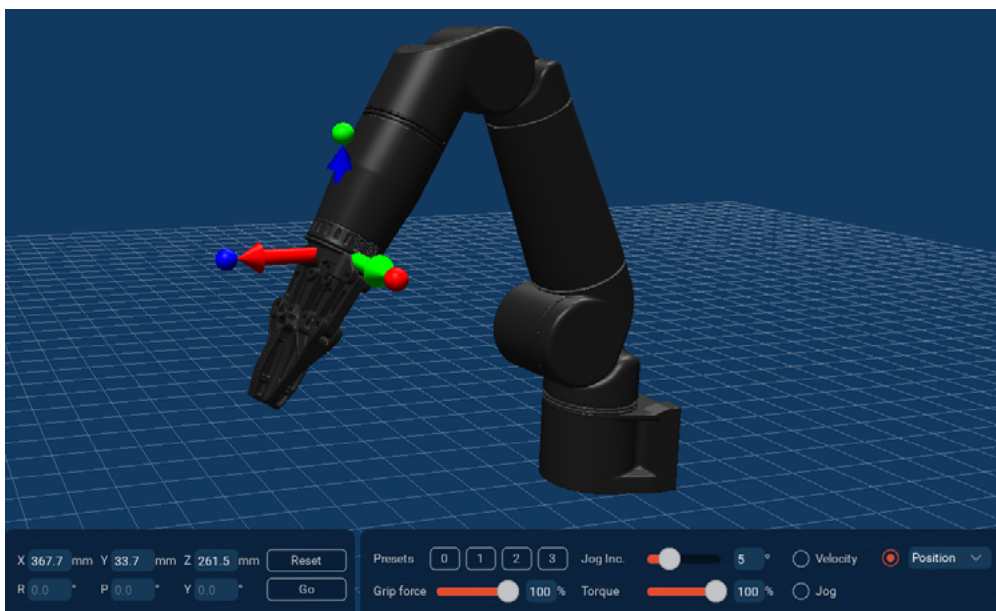


Figure 15: Position kinematics control of end-effector

Click and drag the axes widget to a desired target position.

A transparent axes widget will remain at the current end effector position. Select Reset to return the axes widget to the current position (Figure 16).

Once the axes widget has been moved, the **Go** button will flash, indicating that the manipulator is ready to be moved. Select Go, and the end effector will move to the target position.

If the target position cannot be reached, the Go button will stop flashing after being pressed and the manipulator will not move.

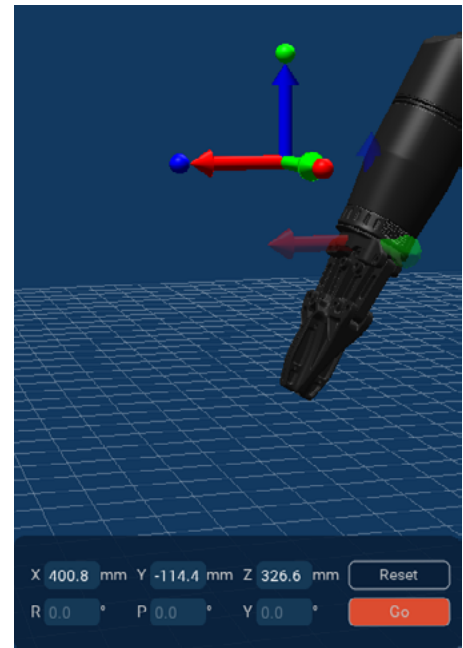


Figure 16: Position kinematics control

3.2 GRIP FORCE AND TORQUE

The amount for grip force and torque can be adjusted using the sliders in the control panel (Figure 17). The Grip Force slider sets the maximum force with which the jaws will close. The Torque Slider sets the maximum torque each joint will apply.



Figure 17: Grip force slider

3.3 POSITION PRESETS

The manipulator can be sent to a stored position by clicking and holding on one of the preset buttons (Figure 18). By default, manipulators are configured with a Stow position in preset 0, and a Deploy position in preset 1. The name of each preset will appear when the mouse hovers over the preset button.

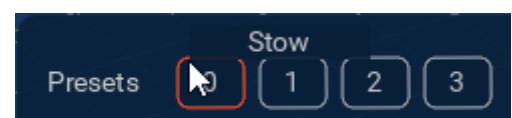


Figure 18: Preset position panel

Refer to [Section 5.6](#) for steps on setting up or changing presets.

3.4 SIMULATION MODE

In simulation mode, the manipulator model can be controlled without a physical manipulator being connected.

To enter simulation mode, toggle on Enable Simulation Mode in the device panel for any connected manipulator (Figure 19). This will put all devices into simulation mode. Now, each joint of the manipulator can be controlled by any method that controls individual joints (e.g., Master Arm, keyboard controls).



Figure 19: Simulation Mode toggle button

Certain Reach Control functionality (e.g. kinematics, position presets, obstacles) are not available in simulation mode. These functions will be disabled and greyed out (Figure 20).



Figure 20: Unavailable functions in Simulation Mode

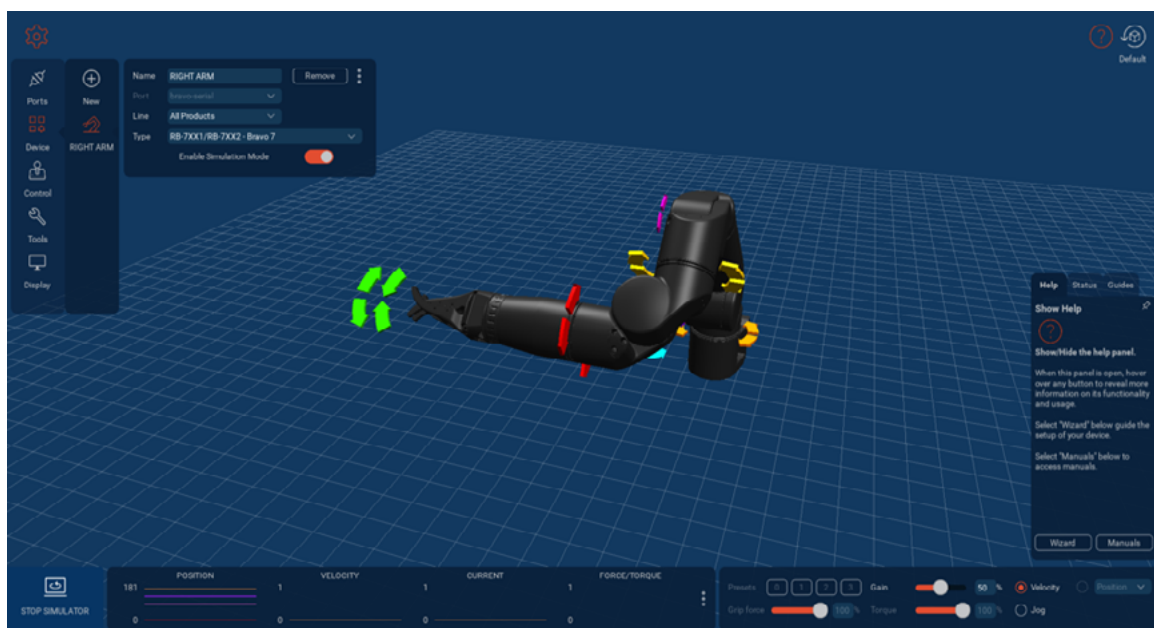


Figure 21: Simulation Mode view

To exit simulation mode, either select the STOP SIMULATION button (Figure 22) or toggle off Enable Simulation Mode (Figure 19).

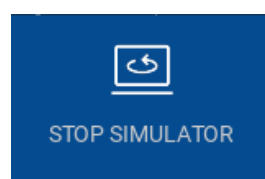


Figure 22: Stop Simulator button

4 HELP PANEL

The help panel can be opened/closed by toggling the help icon (Figure 23).



Figure 23: Help icon

4.1 HELP TAB

The top of the help tab displays information on current element the mouse is hovering over on the screen (Figure 24). Depending on the element, it will be an explanation of the functionality or instructions.

Select the Manuals button to open the Manuals popup (Figure 25). Select a manual button to open it.

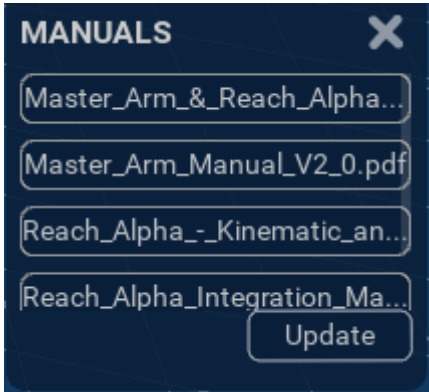


Figure 25: Manuals tab

4.1.1 Popups

Popups will appear at the bottom of the help tab to prompt user actions (Figure 26).

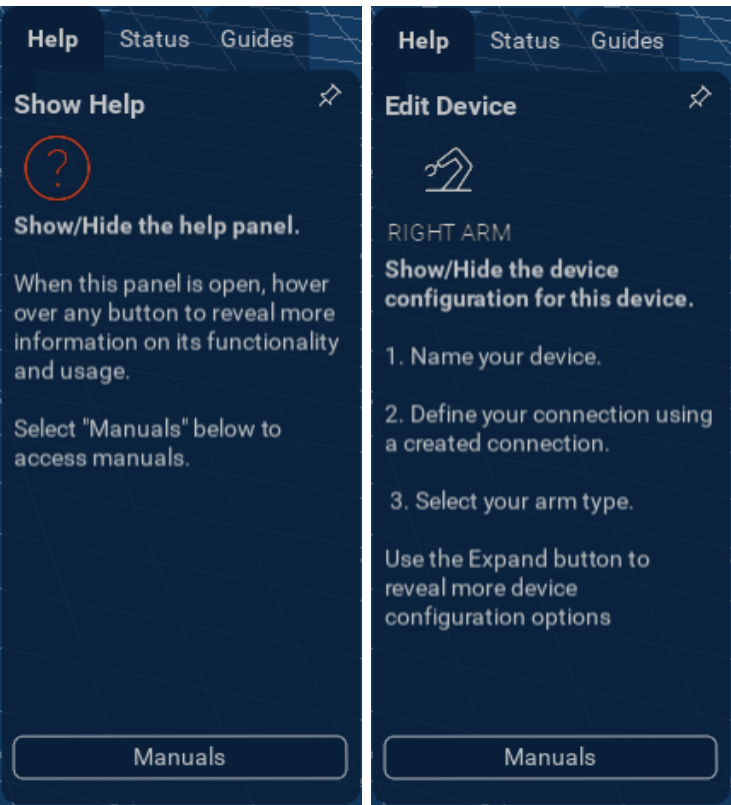


Figure 24: Help tab examples

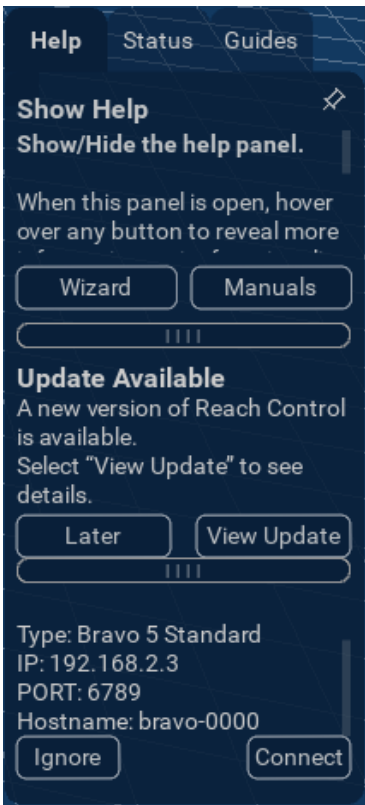


Figure 26: Help tab examples

4.2 STATUS TAB

The status tab contains a status button for each added product at the top, and a notifications area at the bottom (Figure 27).

4.2.1 Product Status Buttons

The product status buttons provide a quick glance overview of the status of the connected manipulator. The LED and status will indicate if the arm is OK, in ERROR, or has NO COMS. Select the button to open the health panel ([Section 7.4](#)).

If the arm is reporting errors, the LED will also show a count of the new errors reported since the health panel was last opened.



Figure 28: Error examples

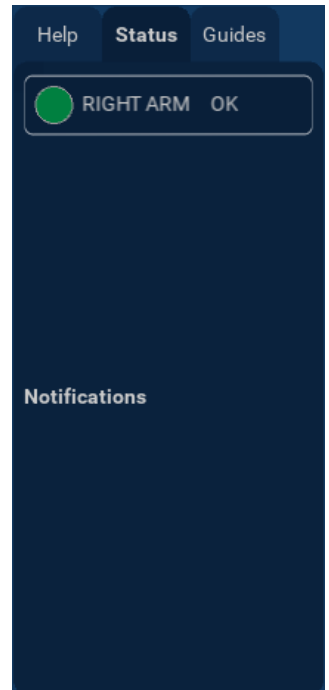


Figure 27: Status tab

4.2.2 Notifications

The bottom of the status tab contains a notifications area. This will contain product specific notifications such as if a jaw calibration is needed.

4.2.3 Error auto-open

When an error is reported, the status tab of the help panel will automatically open.

To prevent this happening, the help tab can be pinned by selecting the pin icon. If an error is reported while the help tab is pinned, the status tab will turn red (Figure 29).

If the entire help panel is closed, it will be automatically opened when an error is received. This can be turned off in Display > General Settings ([Section 8.1](#)).

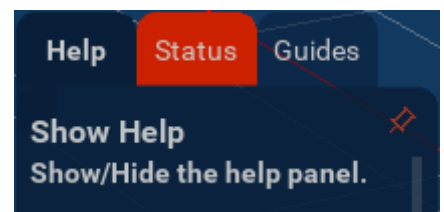


Figure 29: Status tab error reporting

4.3 GUIDES TAB

The guides tab contains a number of interactive quick start guides (Figure 30). Select a guide button to open it.

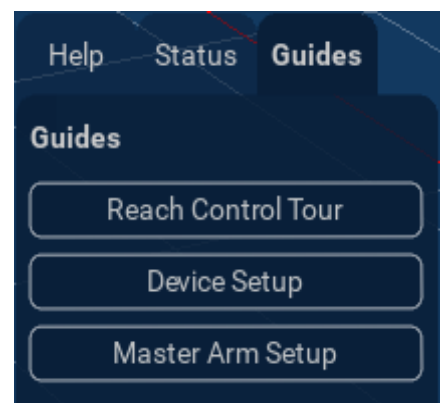


Figure 30: Guides tab

5 DEVICE SETTINGS

Different settings and options for the device can be accessed by selecting the **Expand** icon.



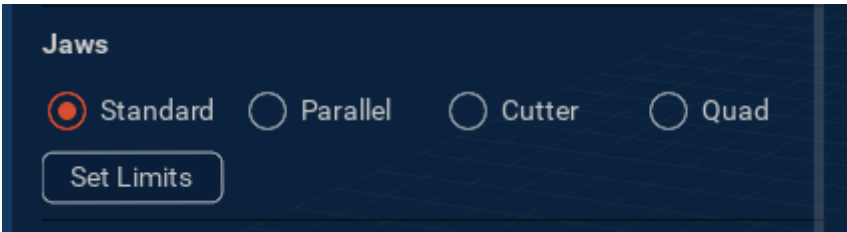
5.1 JAWS

The jaw type of the manipulator can be changed using the Jaw Selection section.

Selecting the correct jaw type ensures the physical limits of the jaws are reflected in the software, preventing damage from jaws being over extended. When the jaw type is selected, it will appear on the model. The model can be compared to the jaws mounted on the manipulator to ensure the correct option has been selected.

5.1.1 Alpha

For an Alpha, select the check box next to the desired jaw type. The jaws will update in the visualisation.



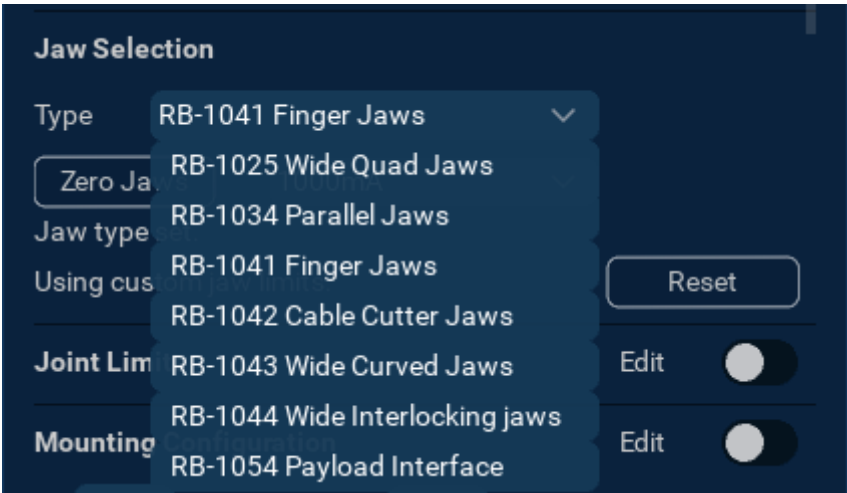
If required, the jaws can be recalibrated by selecting the Set Limits button. Ensure that the correct jaw type is selected, and that there is nothing between the jaws as it runs the autocalibration sequence.

The feedback will display Complete once the autocalibration as run successfully.



5.1.2 Bravo

For a Bravo, select the jaw type from the dropdown menu. The jaws will update in the visualisation.



To recalibrate the jaws, select the Zero Jaws buttons. Ensure that the correct jaw type is selected, and that there is nothing between the jaws as it runs the autocalibration sequence.

If the joint limits for the jaw have been changed from the default, feedback text will indicate the jaw is 'Using custom jaw limits'. Select Reset to change the limits back to default.



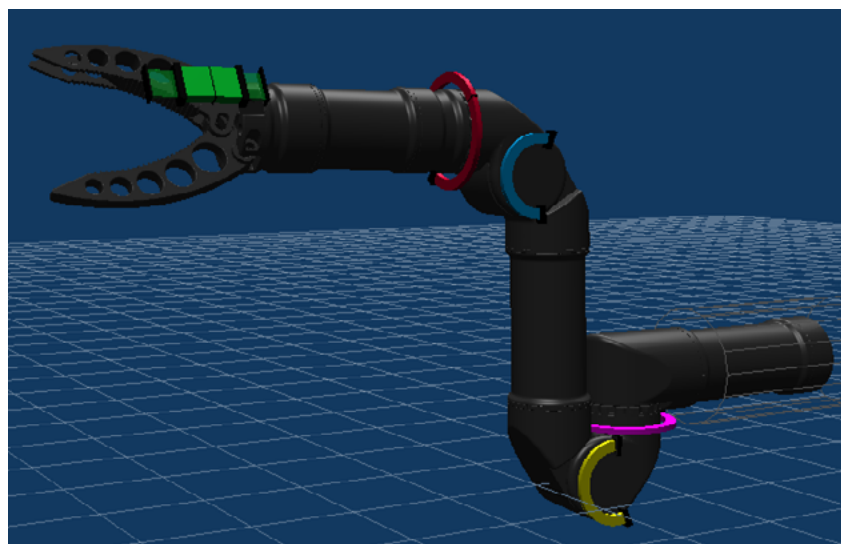
5.2 JOINT LIMITS

The position limits for each joint can be modified to restrict the movement of each joint. This also allows collision to be prevented in manipulators that do not have Obstacle Avoidance (< 5 Function Manipulators).

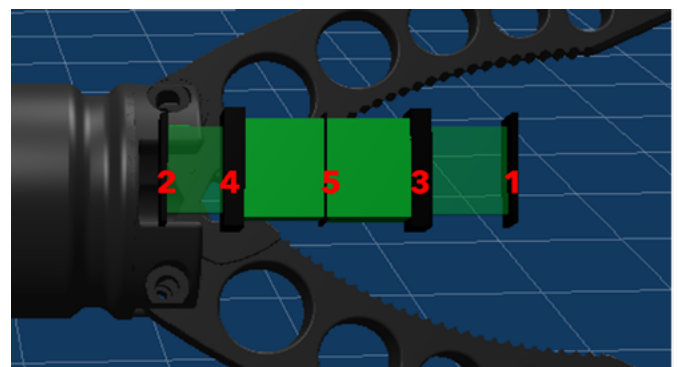
In the Joint Limits section, toggle on the Edit switch.



Joint limit indicators will appear on the manipulator in the 3D visualisation.



There are 5 different notches on the Joint Limit Sliders.



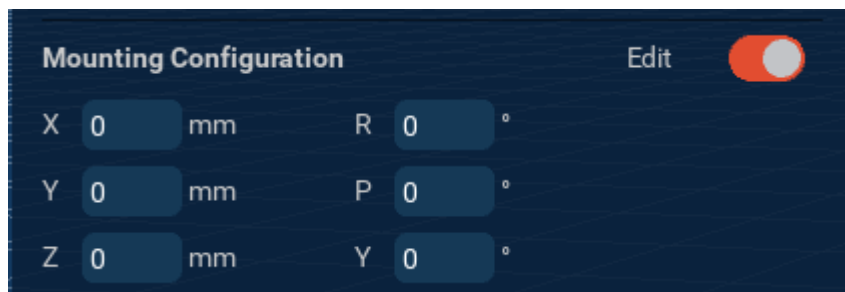
1. The factory maximum position limit. User joint limits cannot be configured beyond this value.
2. The factory minimum position limit. User joint limits cannot be configured below this value.
3. The user maximum position limit. Click and drag this slider to edit the modify the limits.
4. The user minimum position limit. Click and drag this slider to edit the modify the limits.
5. The current position of the joint.

The position of the joint must be moved between the desired limits. The user position limits cannot be moved past the current position of the joint.

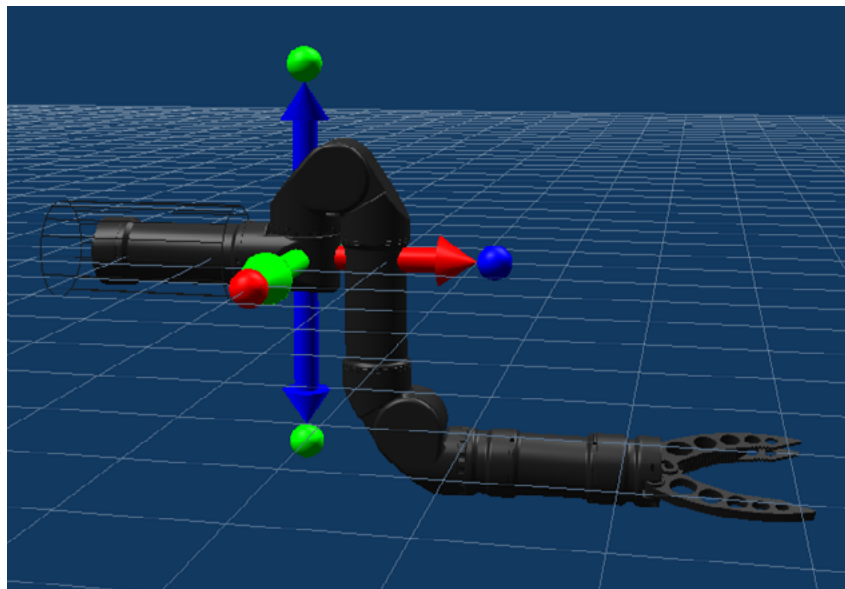
5.3 MOUNTING CONFIGURATION

The mounting configuration of a manipulator in Reach Control can be edited to reflect the physical setup.

In the Joint Limits section, toggle on the Edit switch.



An axis widget will appear at the base of the model.



Click and drag the arrows to translate the model along each axis. Click and drag the spheres to rotate the model about each axis. Any obstacles present will also move with the model. Precise XYZ and RPY values can also be entered into the relevant text boxes.

For example, this model has been inverted about the X axis, and moved up along the Z axis.



5.4 OBSTACLE SETUP

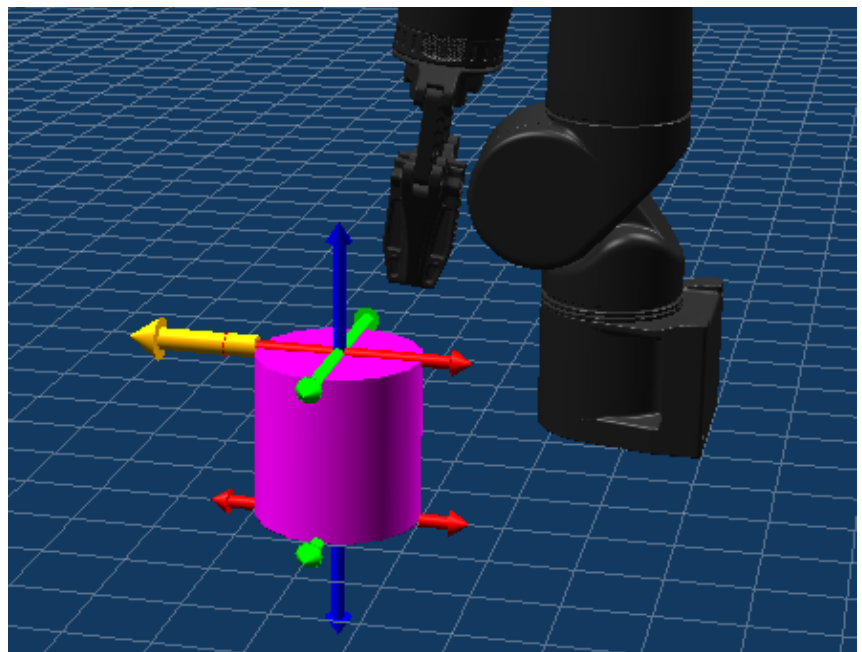
Obstacles can be added to a manipulator to prevent collisions between itself and its surroundings.

5.4.1 Adding Obstacles

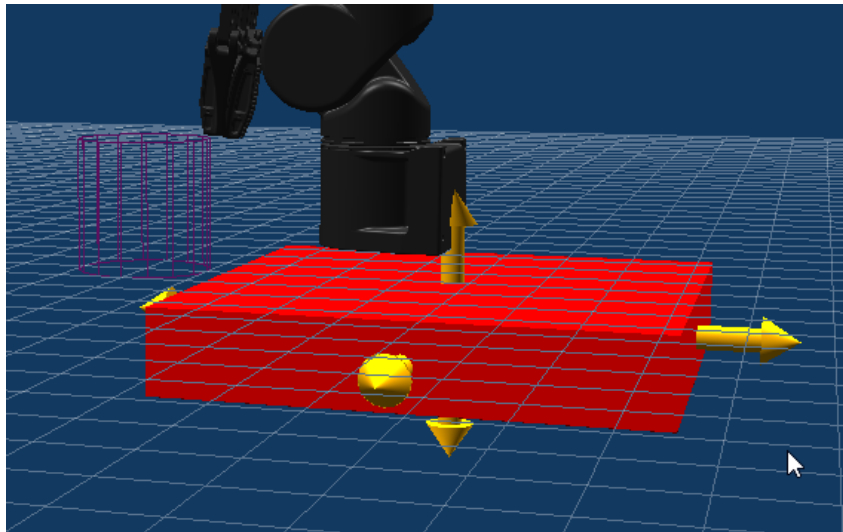
In the Obstacle Setup section, toggle on the Edit switch.



Select Add Cylinder. A cylinder will appear on the 3D visualisation. Select the cylinder to edit it. Click and drag the arrows to change the cylinder dimensions and orientation. Click and drag the cylinder body to move it in the 3D space.

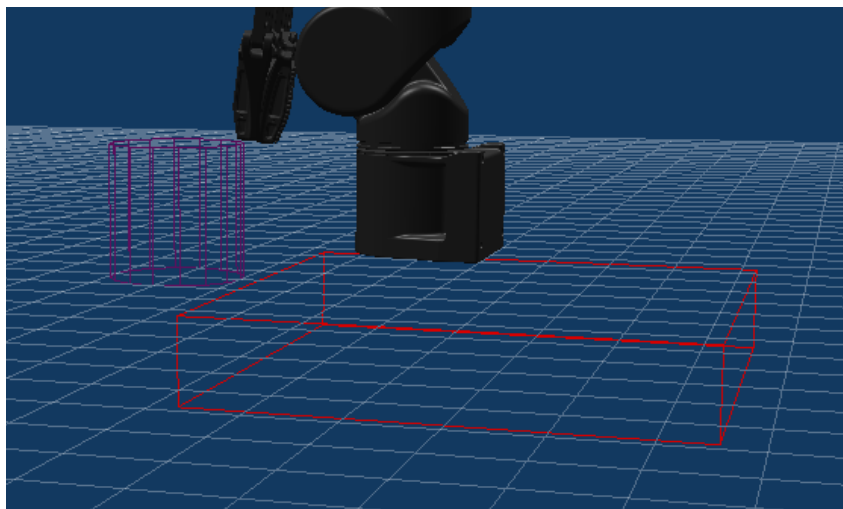


Select Add Box. A box will appear on the 3D visualisation. Select the box to edit it. Click and drag the arrows to change the dimensions of the box. Click and drag the box body to move it in the 3D space.



Select the box again to finish editing it.

Turn off the Edit toggle, the obstacles will appear as wireframes.



5.4.2 Removing Obstacles

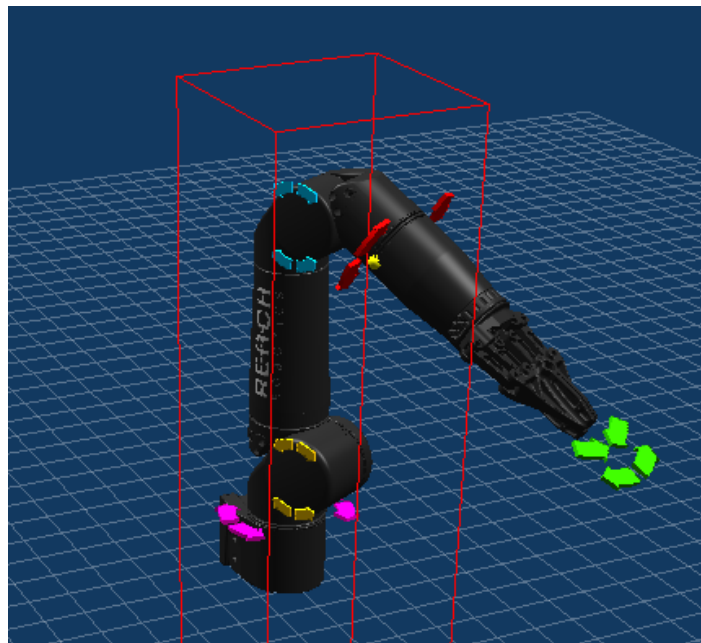
To remove an obstacle, select the Remove button. Obstacles will be removed in the reverse order of how they were added.



5.4.3 Obstacle Visualisation

By default, the obstacles will only show in the visualisation when the Device Settings panel is expanded.

If a collision is detected, it will be indicated by a yellow dot at the point of collision and the obstacle will be shown.



To always show the obstacles, turn on the Obstacles toggle in the 3D View Settings ([Section 8.2](#)).

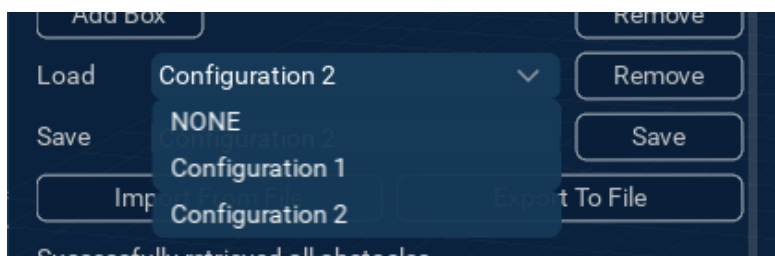
5.4.4 Obstacle Configurations

Obstacle setups can be saved as configurations. These can be loaded as needed and exported/imported.

To save a setup, enter a name and select the Save button.



To load a saved configuration, select it from the Load dropdown menu.

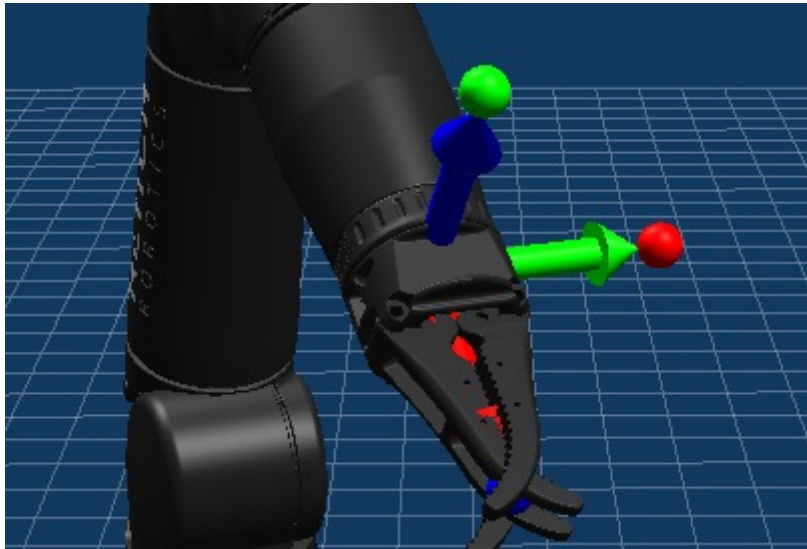


Obstacle configurations can also be exported in .json format. Select Export To File and use the file explorer that opens to save the file.

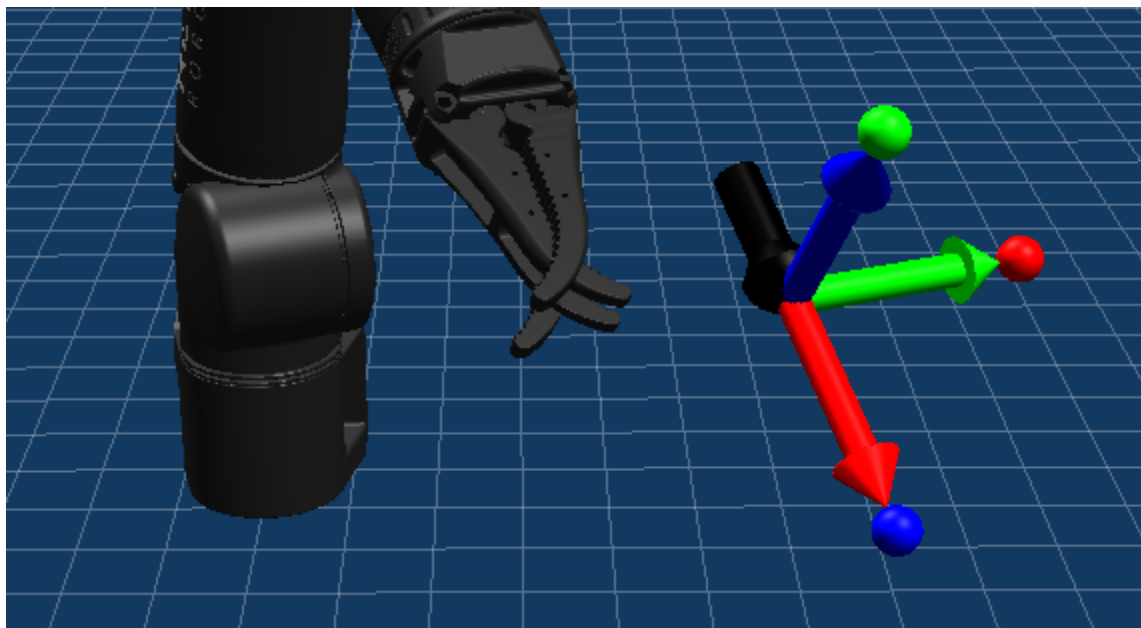
To import a configuration, select Import From File and use the file explorer that opens to select a previously exported .json file.

5.5 PROBE OFFSET

In the Probe Offset section, toggle on the Edit switch. An axes widget will appear at the current end effector position.



Move the widget to change the position of the end effector. This will impact how kinematics behaves.



Multiple probe offsets can be stored as presets.

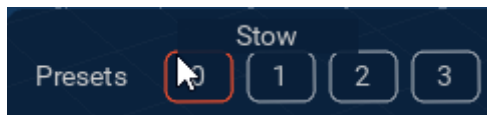


Select Save to store the current probe offset as the preset selected in the Preset dropdown.

To apply a stored probe offset preset, select it from the preset dropdown and select Load.

5.6 POSITION PRESETS

5.6.1 Using a preset



Click and hold a preset button to send the manipulator to that stored preset position. The name of the preset will appear as the mouse hovers over each button.

5.6.2 Capturing a preset

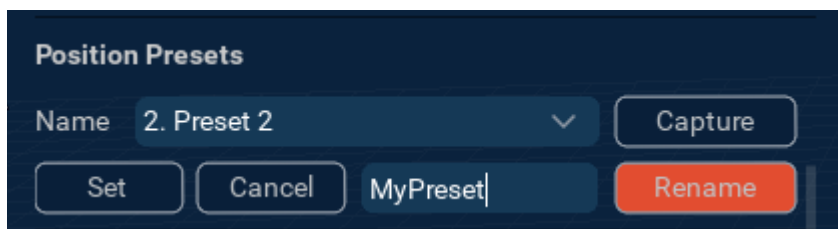
Move the manipulator into the position to be stored. Select a preset slot from the Name dropdown menu to store the position to. Select Capture.



5.6.3 Renaming a preset

Select the Rename button.

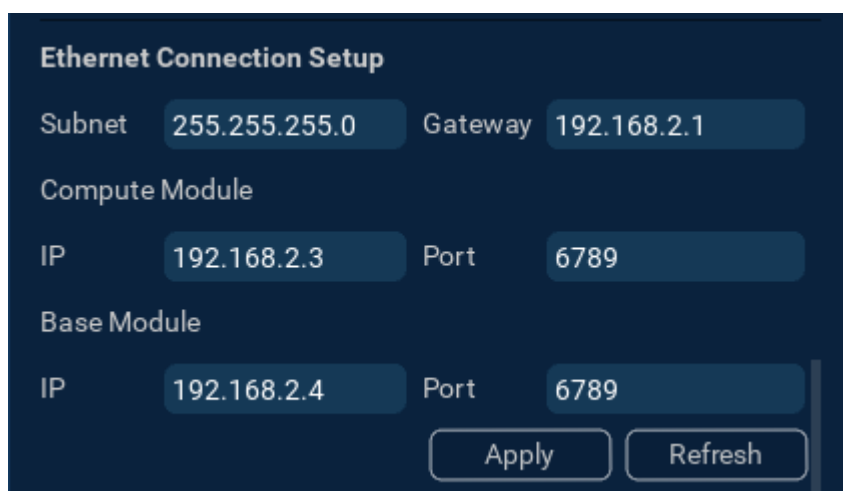
Enter the new name in the text box that appears. Select Set to save the name or Cancel to exit.



5.7 ETHERNET CONNECTION SETTINGS

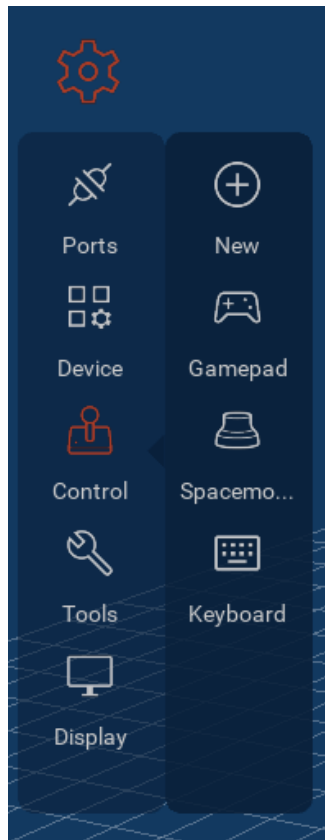
Only applicable to some Bravo manipulators.

Connect to the manipulator over serial. Change the ethernet settings as required, then select Apply. If a setting is not successfully saved, it will revert to the original value. Change it to the required value and select Apply again.



6 CONTROLLERS

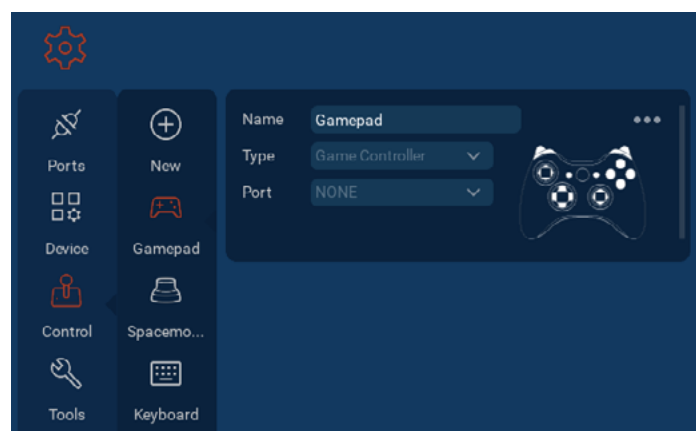
Reach Control supports several controller types. There are all accessed from the Control menu under Device > Control.



6.1 GAMEPAD

Reach Control only supports one gamepad connection at a time. When the gamepad is plugged in, it will be automatically detected by Reach Control.

Select Gamepad from the Control menu.



Click on the three dots to expand the Gamepad panel.



The screenshot shows the 'Gamepad' configuration panel. At the top, there are fields for 'Name' (Gamepad), 'Type' (Game Controller), and 'Port' (NONE). To the right is a gamepad icon and a three-dot menu icon. Below these is a table with columns 'Slot', 'Mapping', and 'Shift + ____'. Slot 1 is selected and shows 'default alpha'. Slots 2, 3, and 4 show 'NONE'. Below the table are fields for 'Shift Button:' and 'Next Mapping:'. At the bottom is a 'Mapping Editor' section with an 'Editing:' dropdown (set to 'default alpha'), a 'Delete' button, and a 'Save As' button (set to 'custom alpha'). At the very bottom are three tabs: 'Demand', 'Device', and 'Axis'.

Slot	Mapping	Shift + ____
<input checked="" type="radio"/> 1	default alpha	
<input type="radio"/> 2	NONE	
<input type="radio"/> 3	NONE	
<input type="radio"/> 4	NONE	

Shift Button:

Next Mapping:

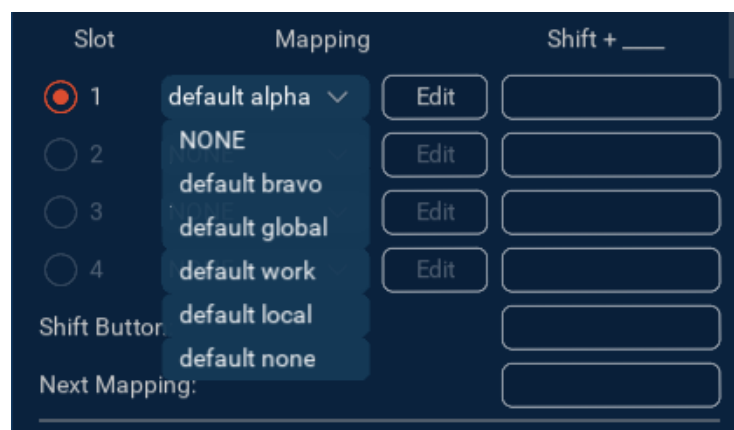
Mapping Editor

Editing: default alpha

custom alpha

Demand Device Axis

Using the dropdown menu, select the appropriate default mapping for the connected manipulator.



This screenshot shows the same Gamepad configuration panel as before, but with the 'Mapping' dropdown menu for Slot 1 open. The menu lists several options: 'default alpha' (which is highlighted), 'NONE', 'default bravo', 'default global', 'default work', 'default local', and 'default none'. The rest of the interface remains the same.

Slot	Mapping	Shift + ____
<input checked="" type="radio"/> 1	default alpha	
<input type="radio"/> 2	NONE	
<input type="radio"/> 3	default bravo	
<input type="radio"/> 4	default global	
	default work	
	default local	
	default none	

Shift Button:

Next Mapping:

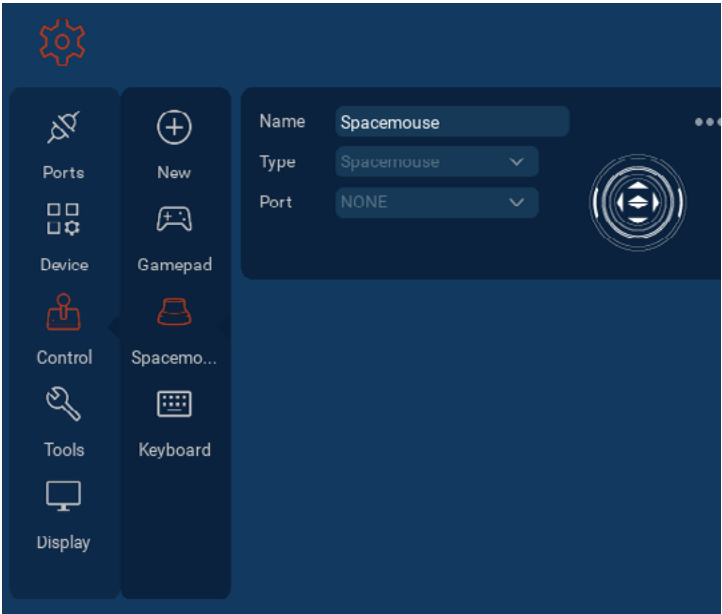
For more advanced mapping configuration, refer to the Gamepad Mapping Manual, available from [Reach Robotics Support](#).

6.2 SPACEMOUSE

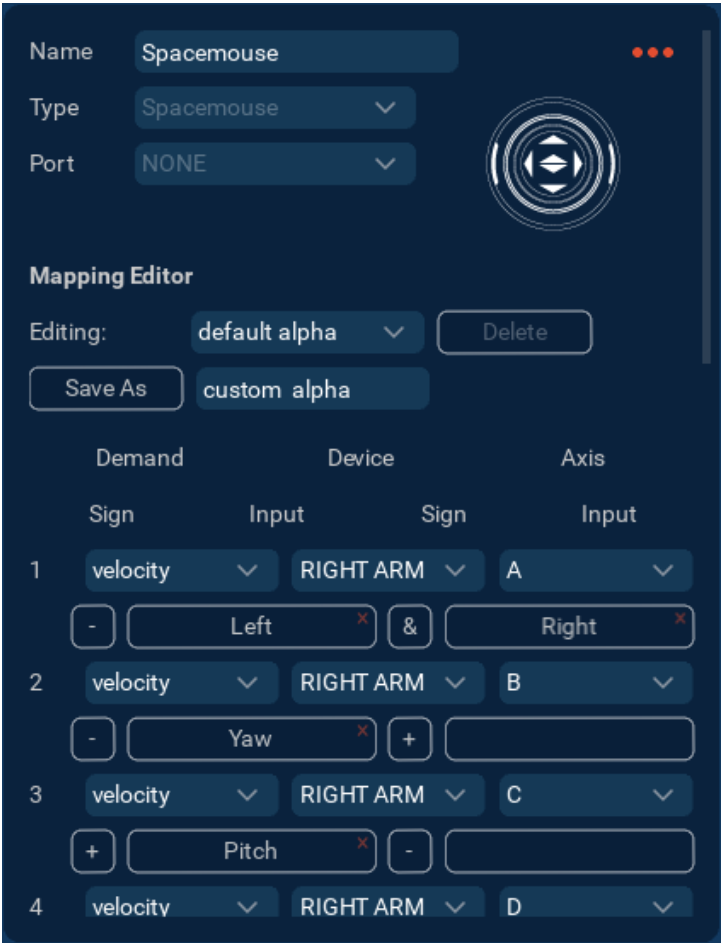
Reach Control only supports one SpaceMouse connection at a time.

Plug in the SpaceMouse, and it will be automatically detected by Reach Control.

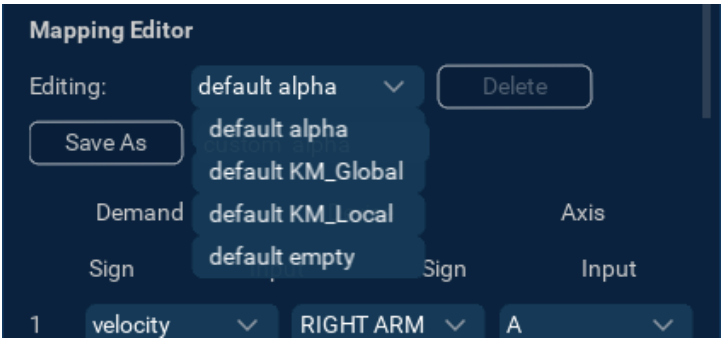
Select SpaceMouse from the Control menu.



Click on the three dots to expand the SpaceMouse panel.

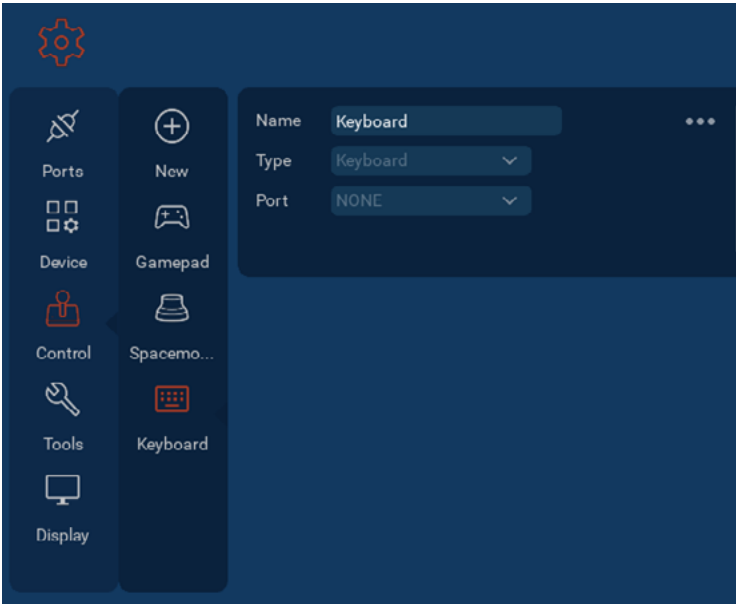


Using the dropdown menu, select the appropriate default mapping for the connected manipulator.

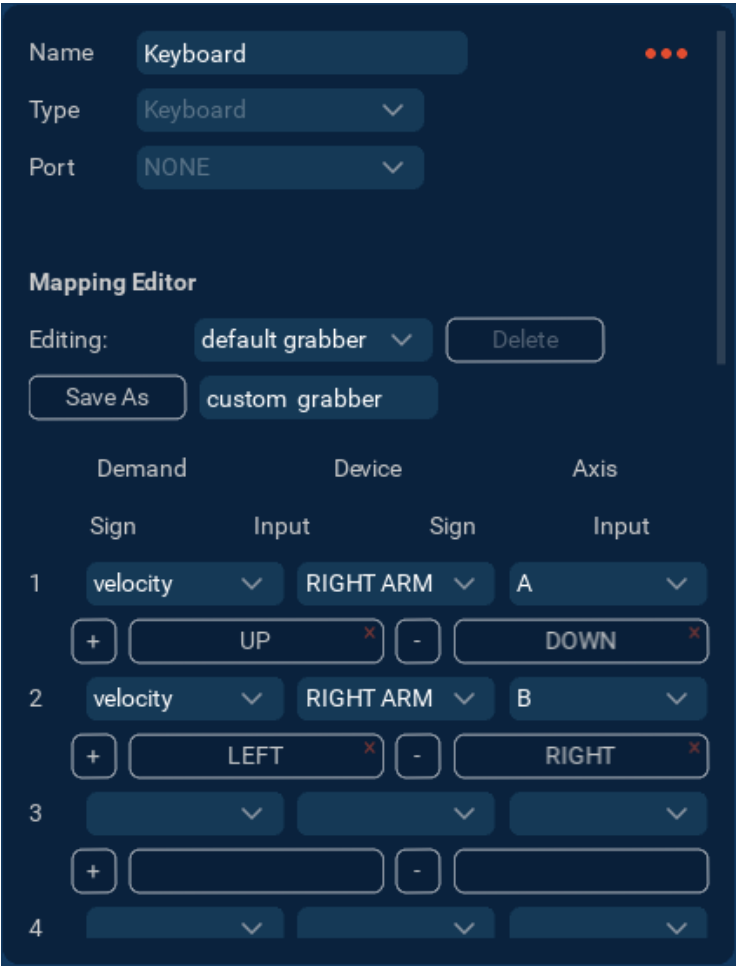


6.3 KEYBOARD

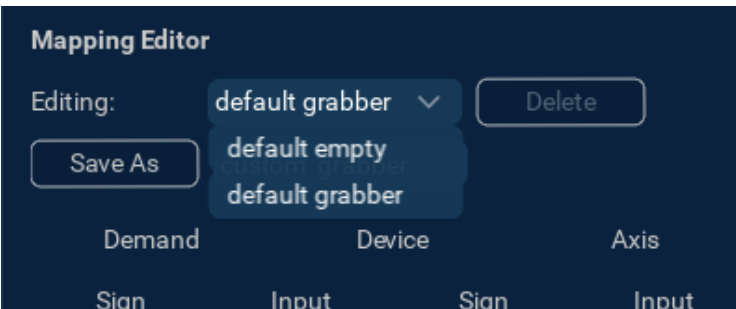
Select Keyboard from the Control Menu.



Click on the three dots to expand the Keyboard panel.



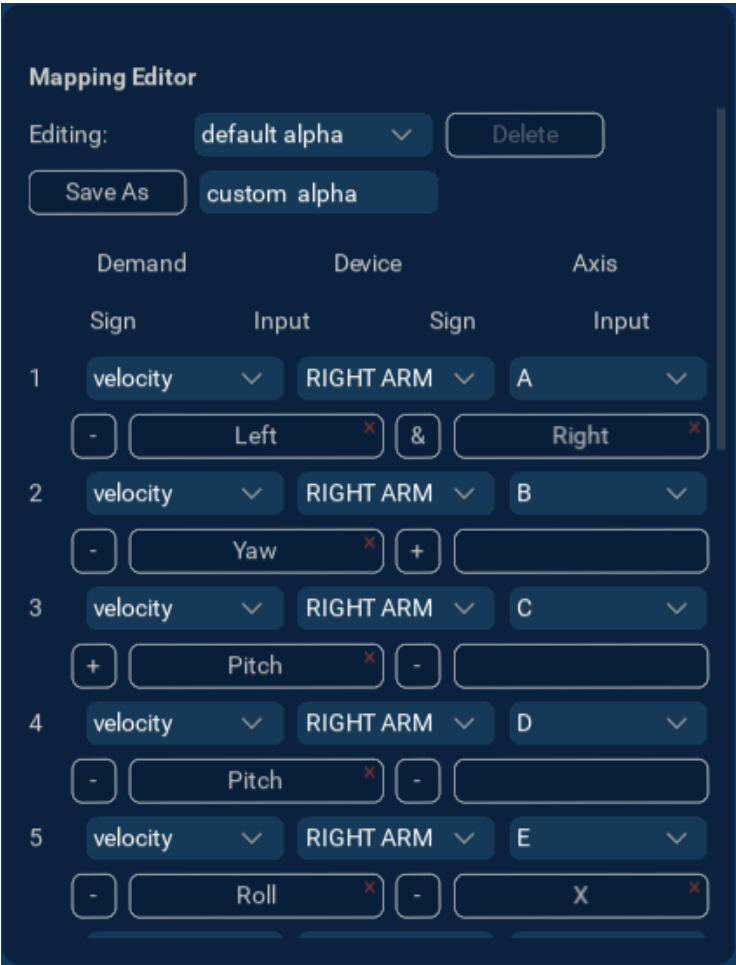
Using the dropdown menu, select the default grabber mapping.



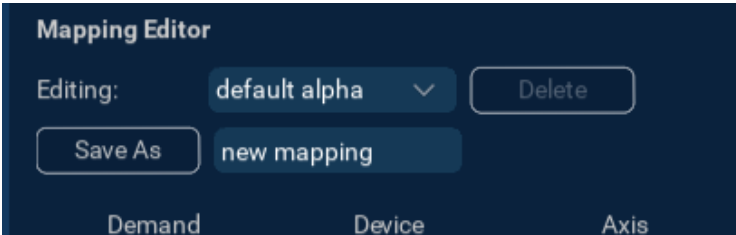
6.4 CUSTOM MAPPING CONFIGURATIONS

The mapping configuration for each controller type can be customised. The process is the same for the gamepad, SpaceMouse, and keyboard controller types.

In the expanded panel for a controller, scroll to the Mapping Editor section.



Using the Editing dropdown, select one of the default mappings to edit. Enter a name for the custom mapping if desired.



Use the leftmost dropdown to change the demand type. Velocity and Position correspond to individual joint controls. Pos Presets control the ability to stow/deploy the manipulator. Global and Local correspond to kinematic control.



Use the middle dropdown to select which manipulator to control.



Use the rightmost dropdown to change the axis that is controlled.

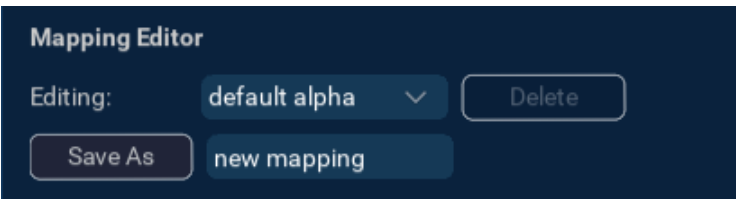
The options available in the dropdown will depend on the demand type.

Velocity/position control applies to specific joints. Pos Presets will provide a list of presets. Global/local kinematic control applies to specific kinematic axes (x, y, z, roll, pitch, yaw).

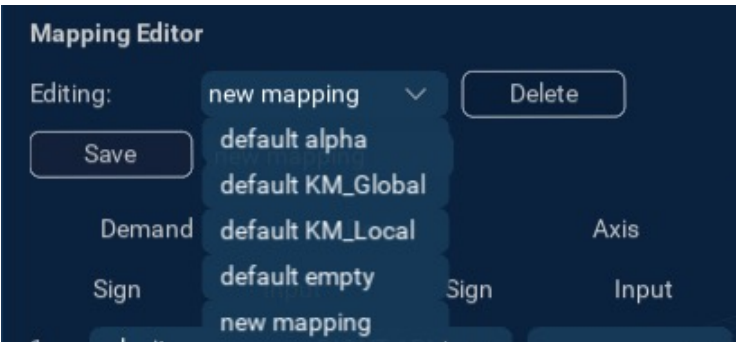


Repeat for each mapping entry as required.

To save a new custom mapping for the first time, select the Save As button.



This mapping will now be available in the Editing dropdown list.



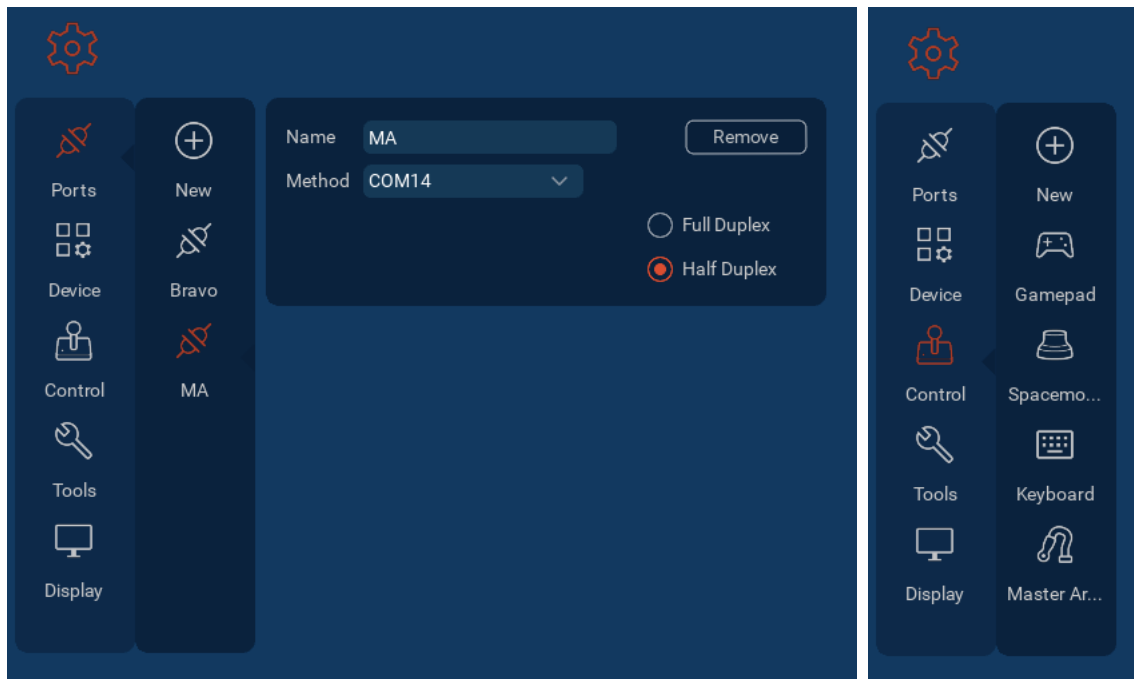
6.5 MASTER ARM

Before adding a Master Arm, a port needs to be added.

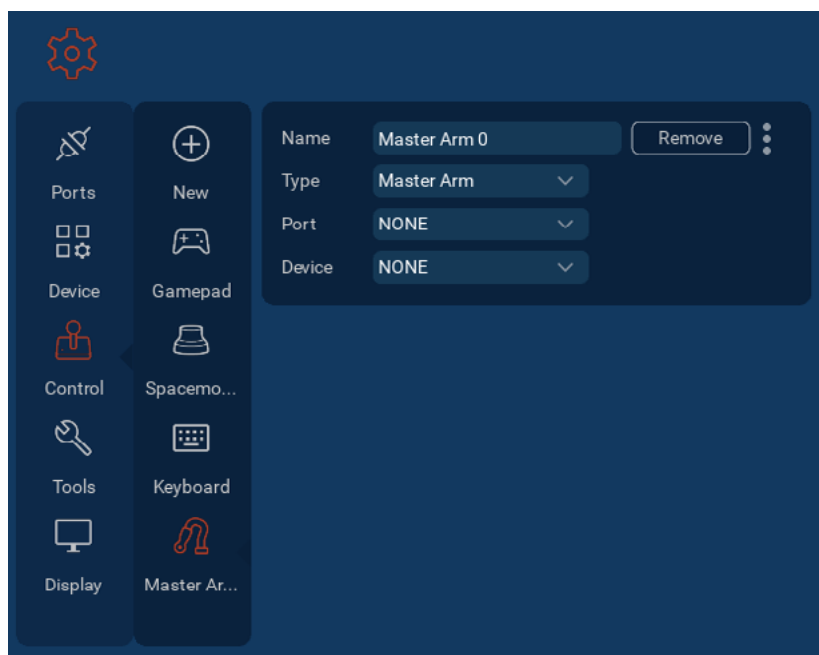
Open Reach Control, Settings (Cog Icon) > Ports > Add. Assign the new port a Name and select the COM port the Master Arm is communicating on. Ensure Half Duplex is selected.

To add a Master Arm, select New in the control panel.

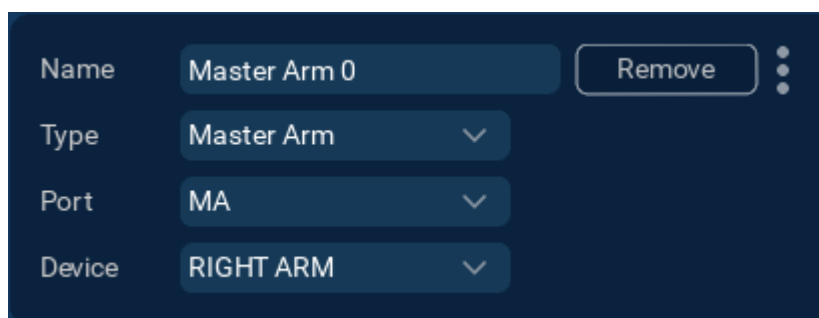
Select the newly added Master Arm to open the Master Arm panel.



Using the dropdown menus, select the newly added Master Arm port and the device to be controlled.

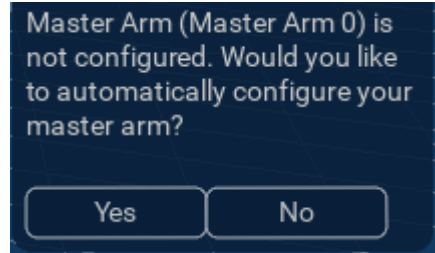


Multiple Master Arms can be added to control multiple manipulators.



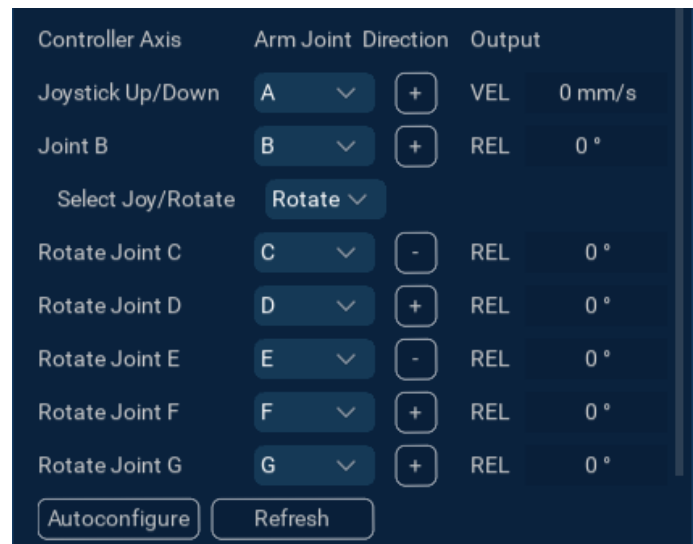
6.5.1 Autoconfiguration

When Reach Control detects a Master Arm is not configured the selected device, an autoconfiguration popup will appear in the help panel. Select Yes to apply a default mapping.

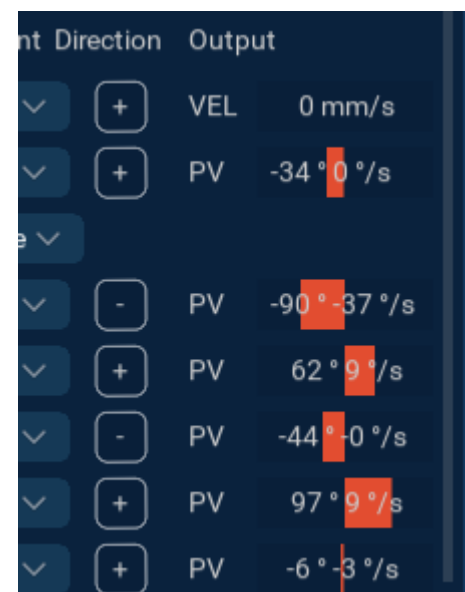


6.5.2 Custom Configuration

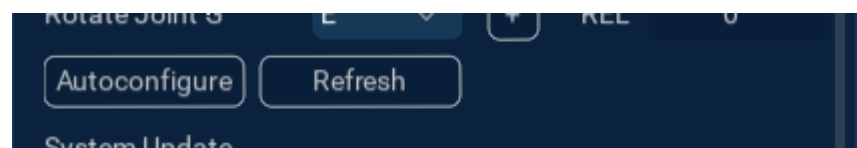
Expand the Master Arm panel. Each controller input is listed in the Controller Axis column. Use the dropdown menu to configure which joint each input controllers. Select the Direction button to reverse the mapping between +/-.



When the Master Arm is un-paused, the output values will be displayed.



To return the configuration to the default, select Autoconfigure.



7 TOOLS

7.1 DATALOGGER

Select a location folder. Select the three dots button to open the file explorer and navigate to the desired output folder location.

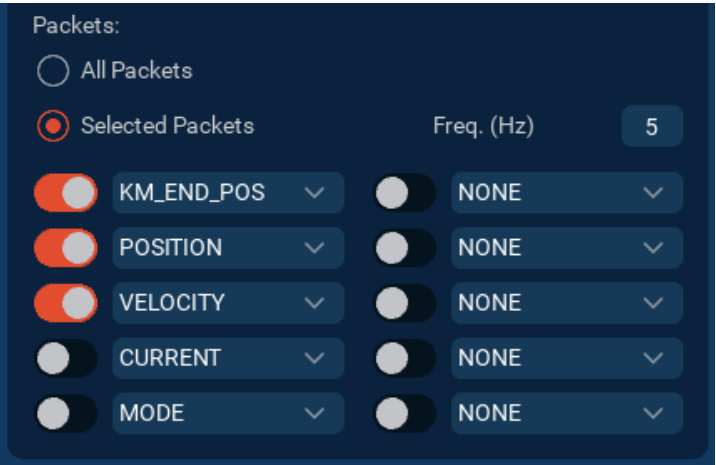
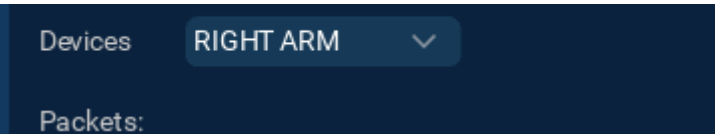
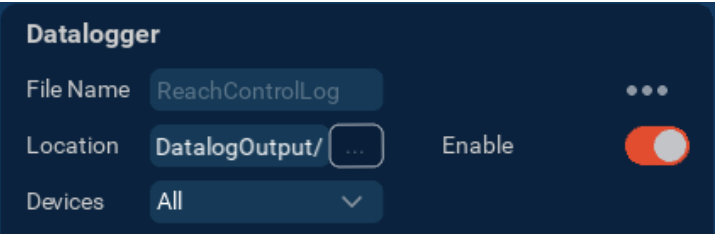
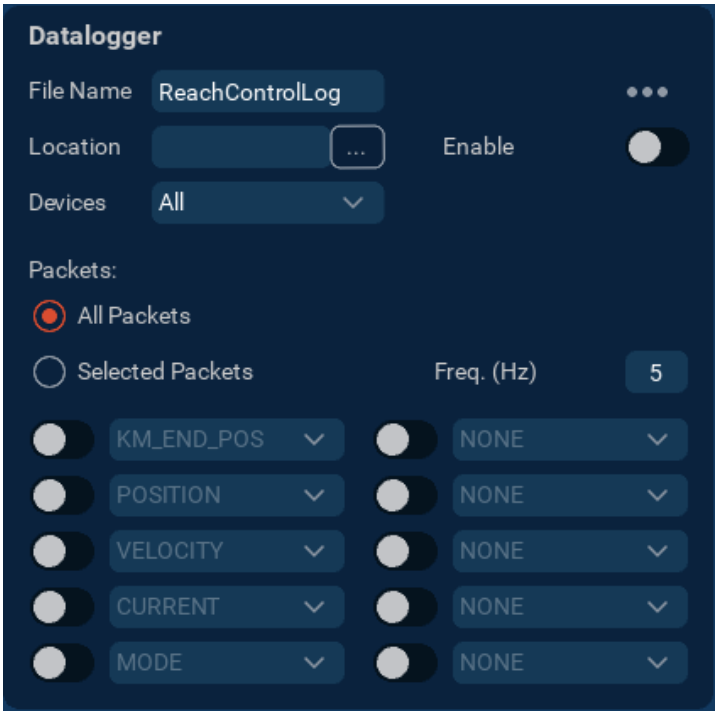
Toggle on the Enable switch.

The Datalogger Start/Pause button will appear to the left of the Control panel.

By default, all packets are logged from all connected devices.

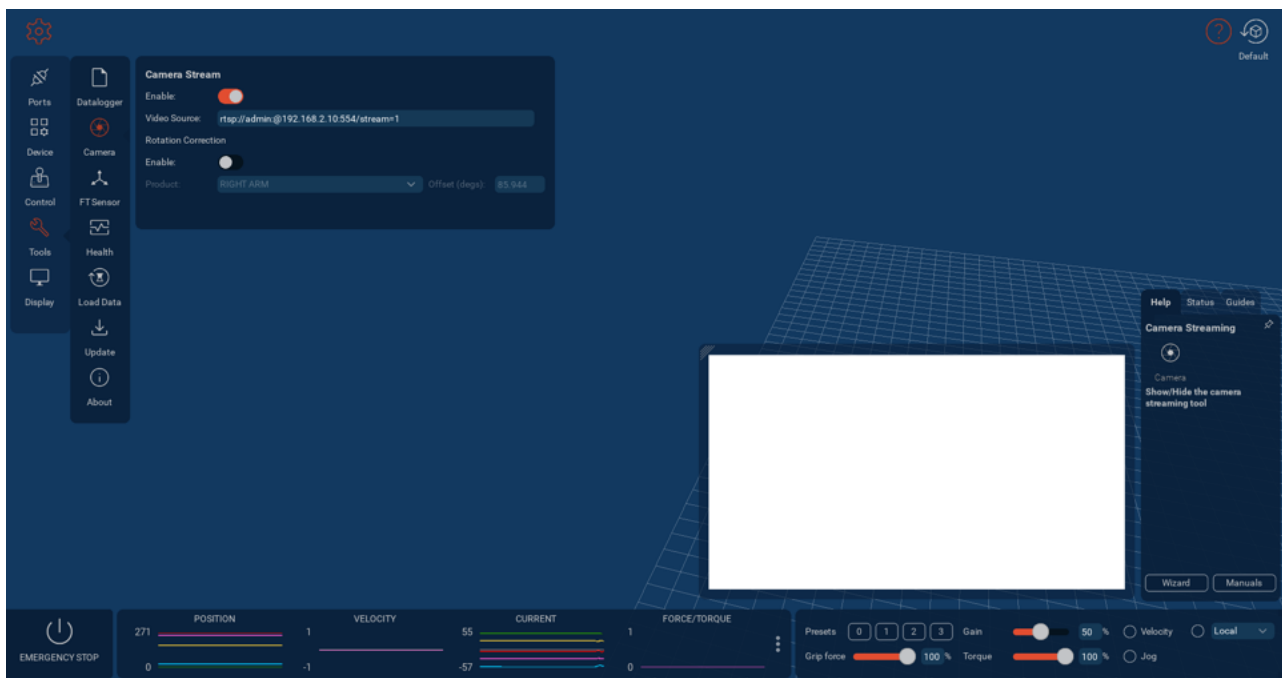
To log data from a single manipulator, select it from the Devices dropdown.

To log only specific packets, Select the check box next to Selected Packets. Toggle on the required packets. Use to dropdown to select the desired packets.



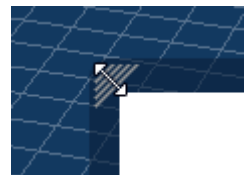
7.2 CAMERA

To view the camera stream, turn on the Enable toggle.



Edit the URL in the Video Source input as required.

The camera stream can be resized by dragging the top left corner.



The stream window can also be moved by clicking and dragging anywhere in the window.

7.2.1 Rotation Correction

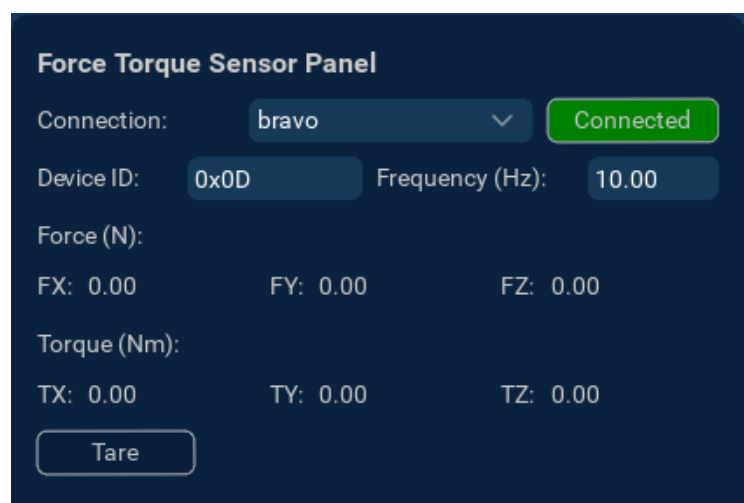
Turn on the Enable toggle, and select the manipulator is attached to from the dropdown menu.

The orientation of the camera stream will now be automatically corrected for the rotation of the selected manipulator.

7.3 FORCE/TORQUE SENSOR

Select the manipulator with the force torque sensor installed from the Connection dropdown.

The sensor will automatically begin reading.



7.4 HEALTH PANEL

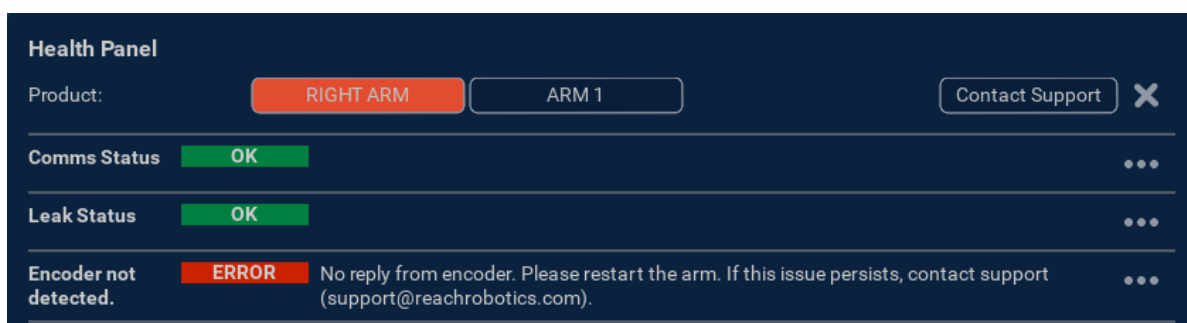
The health panel displays the comms status, leak status, and any hardware errors reported for each connected product.



The comms and leak status are always shown. Expand the sections to see details for each joint.

Comms Status	OK					...
Device	A	B	C	D	E	
Status	OK	OK	OK	OK	OK	
Leak Status	OK					...
Readings	A	B	C	D	E	
Temp (°C)	38.48	38.48	38.83	38.83	40.42	
Fact. Temp (°C)	31.06	31.06	31.76	31.76	36.39	
Pressure (Bar)	0.39	0.39	0.39	0.39	0.39	
Fact. Press. (Bar)	0.35	0.35	0.35	0.35	0.36	
Humidity (%)	30.19	30.19	31.41	31.41	31.33	
Fact. Humidity (%)	30.04	30.04	29.65	29.65	30.97	

When an error is reported, it will appear at the bottom of the list.



Expand the error to see details for each joint.

Encoder not detected.	ERROR	No reply from encoder. Please restart the arm. If this issue persists, contact support (support@reachrobotics.com).				...
Device	A	B	C	D	E	
Count	475	475	470	455	480	
Last Received	0(s)	0(s)	0(s)	0(s)	0(s)	

7.4.1 Contact Support

If an error recommends contacting support, select the Contact Support button. A report window will open. Fill in all the fields, then select Send Report.

Report Details

Name*

test name

Company*

test company

Email*

email@company.com

Serial Number*

5623

Description of the problem*

test decription here

Send Report

7.5 LOAD STORED DATA

This tool is only applicable to Bravo manipulators.

Each individual joint stores data which can be read using the Load Stored Data panel. Data is saved on each joint every 60min by default.

Select the manipulator and parameter to read using the dropdown menus, then select the joint to read from. The default number of readings to be loaded is 12.

Load Stored Data

Product: RIGHT ARM

Select Joint: ☐ A ☒ B ☐ C ☐ D ☐ E ☐ F ☐ G

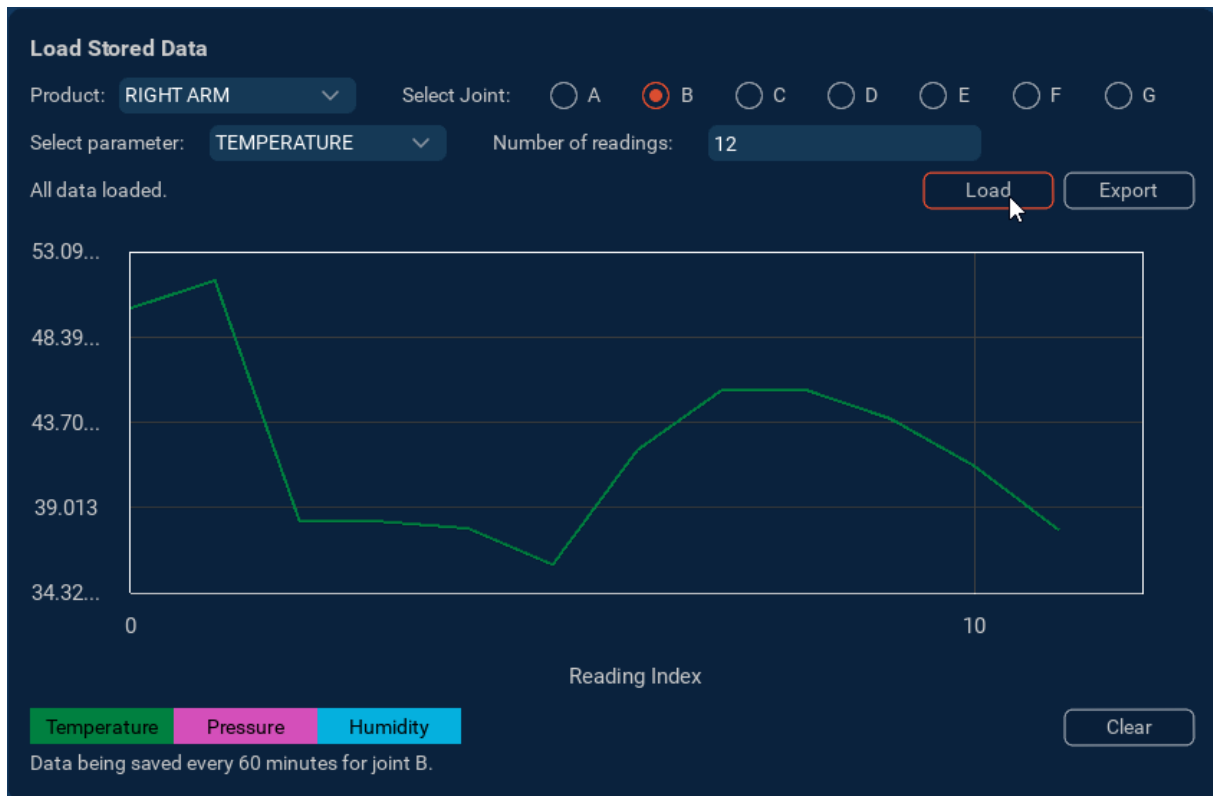
Select parameter: TEMPERATURE

Number of readings: 12

Load

Export

Select Load, and the parameter data will be plotted on the graph.



Multiple parameters can be plotted at once.



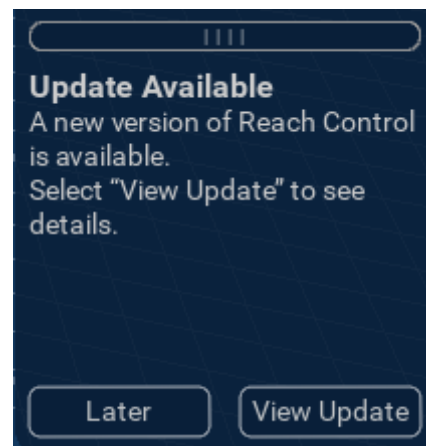
Select the Clear button to remove all plots from the graph.

Select the Export button to save the current graph data in .csv format.

7.6 UPDATE

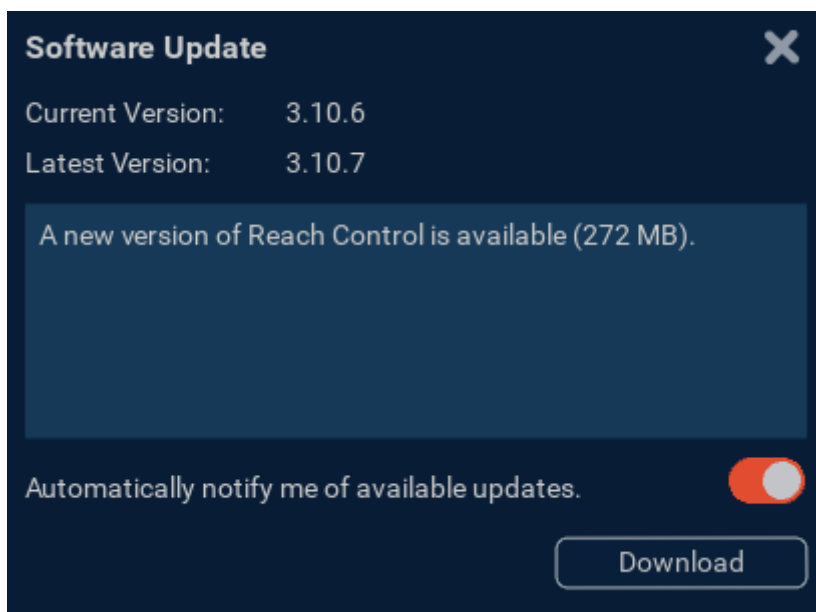
When a new version of Reach Control is available, the Update Available notification popup will appear in the help panel.

Selecting View Update will open the Update panel. The Update panel can also be accessed from the Tools menu.

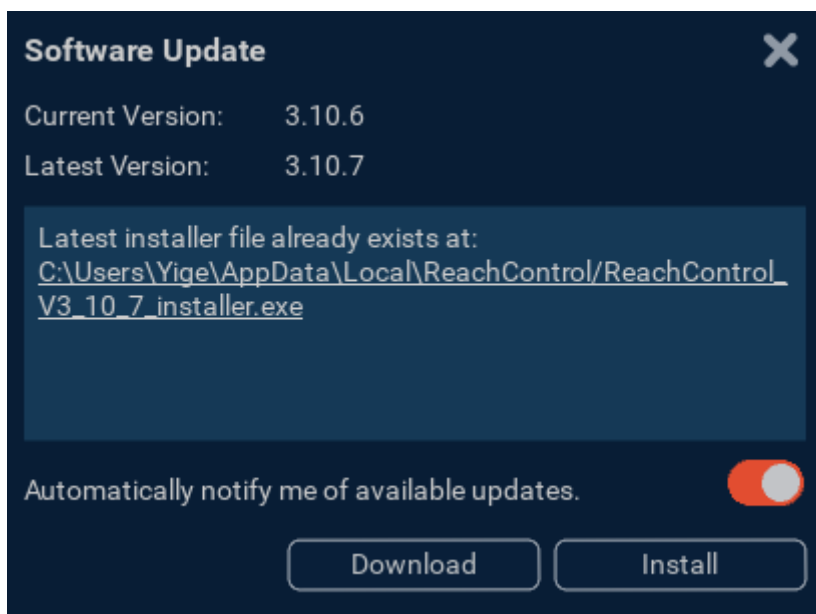


Turn off the Automatically notify me of available updates to stop the Update Available notification popup in the help panel.

Select Download to download the installer. If the installer has previously been downloaded, the file path will be displayed. Select the path view the installer in the file explorer.



Select Install to close Reach Control and run the installer.

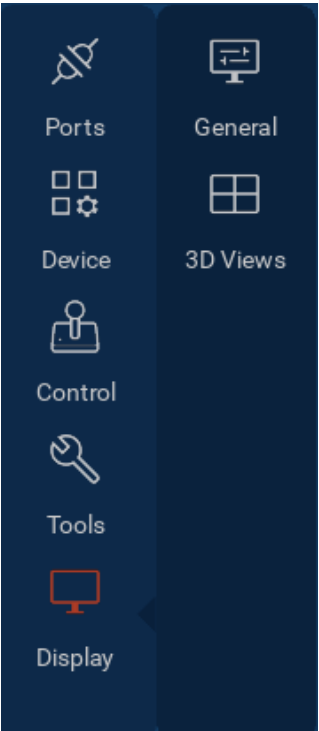
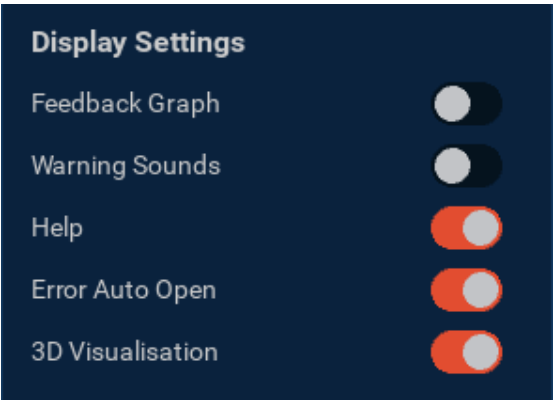


8 DISPLAY

The Display settings are separated into General and 3D Views.

8.1 GENERAL SETTINGS

The Feedback Graph toggle shows/hides the feedback graph along the bottom of the screen.

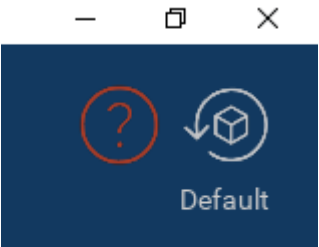


The Warning Sounds toggle enables/disables a warning beep when an over pressure warning is received.

The Help toggle shows/hides the help panel. This is the same functionality as the Help panel button in the top right corner.

The auto error open toggle enables/disables the automatic opening of the help panel to the Status tab when an error is received from a manipulator.

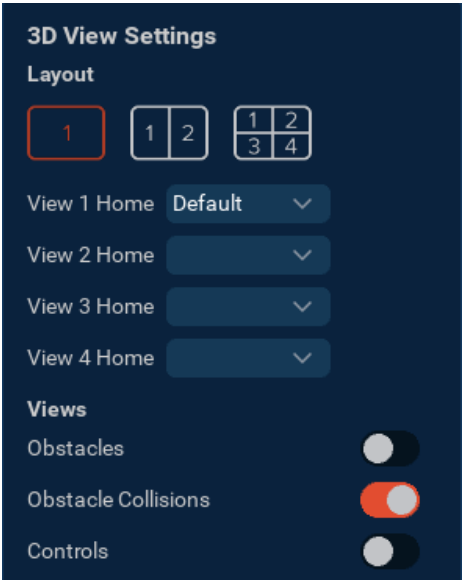
The 3D Visualisation toggle shows/hides the 3D visualisation area of Reach Control.

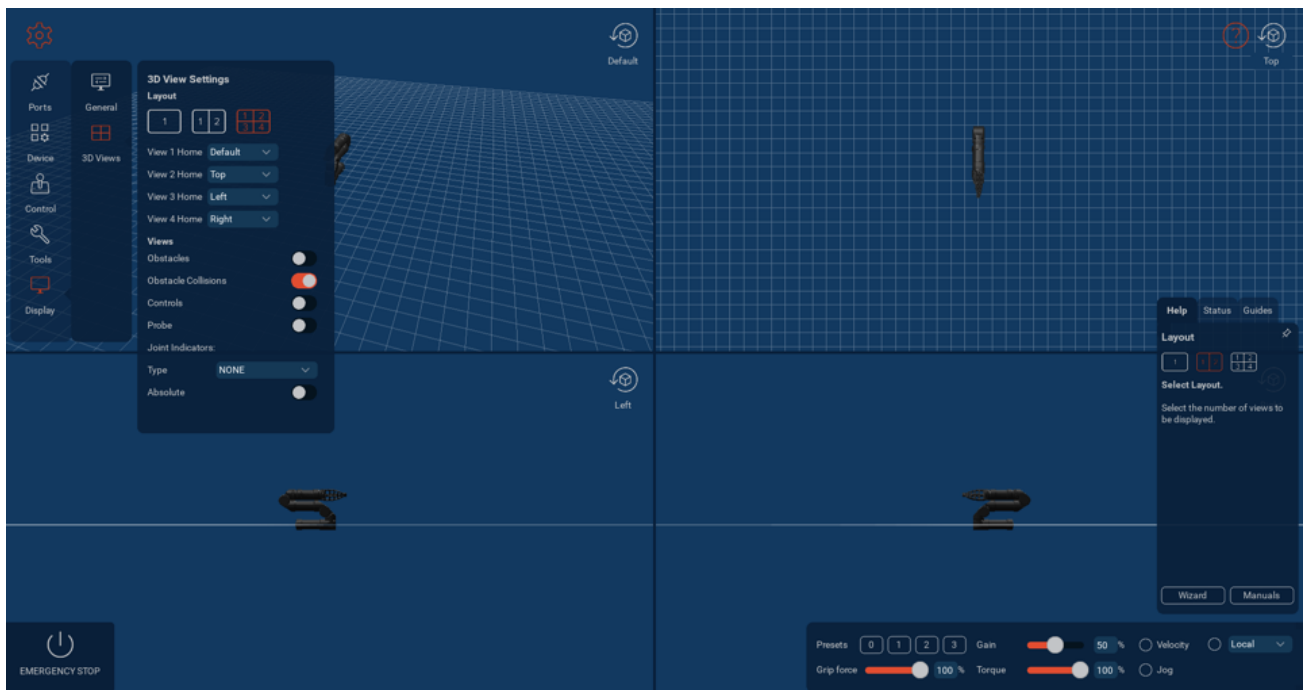
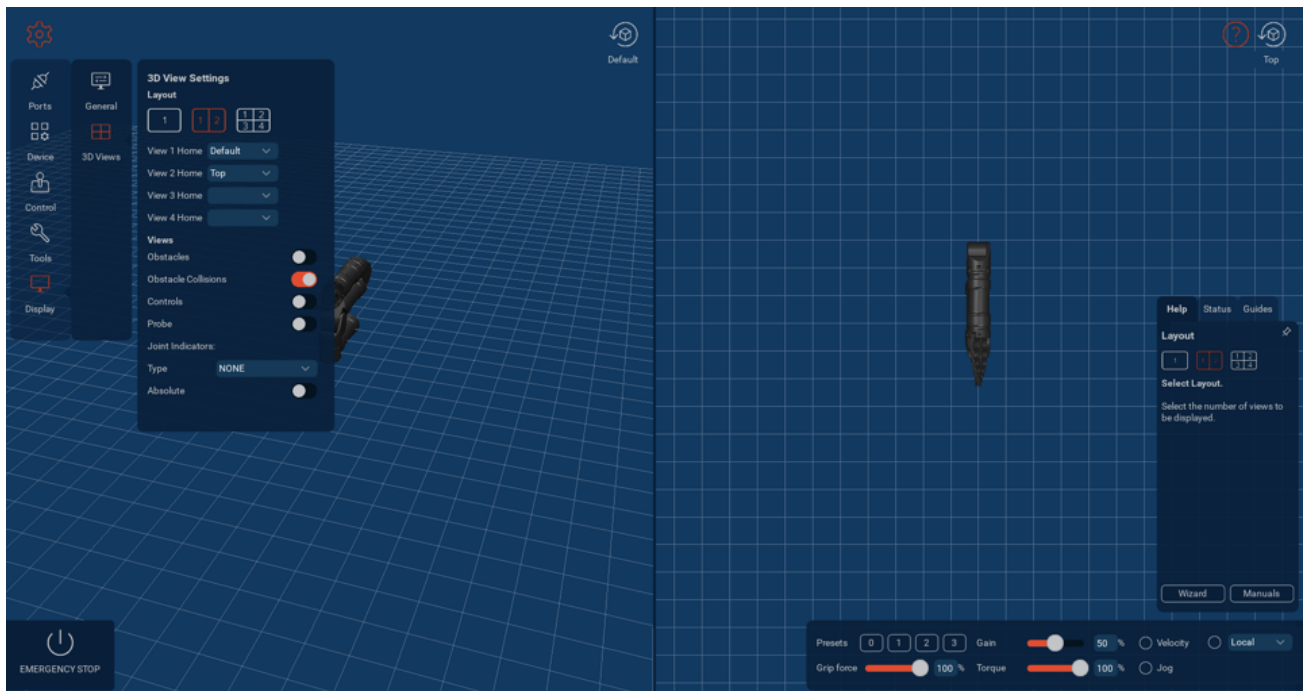


8.2 3D VIEWS

8.2.1 Multiple Layouts

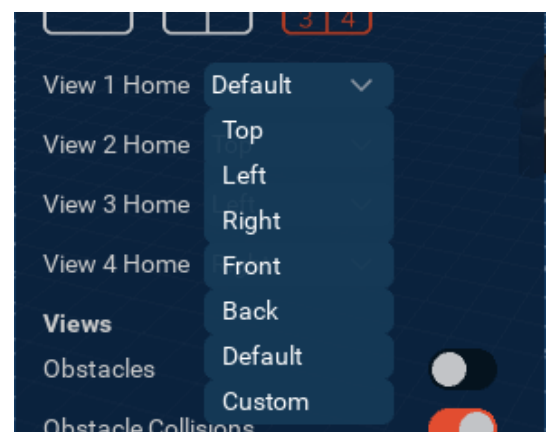
The layout of the 3D Visualisation area can be split into up to 4 viewports. Switch between layouts using the Layout buttons.





Set the home orientation for each viewport using the dropdown menu.

Each viewport can be reset to the home orientation using the Reset View button in the top right of the viewport.



To use a custom orientation, orient the viewport in the desired orientation, then select the Set button.

View 1 Home

Custom

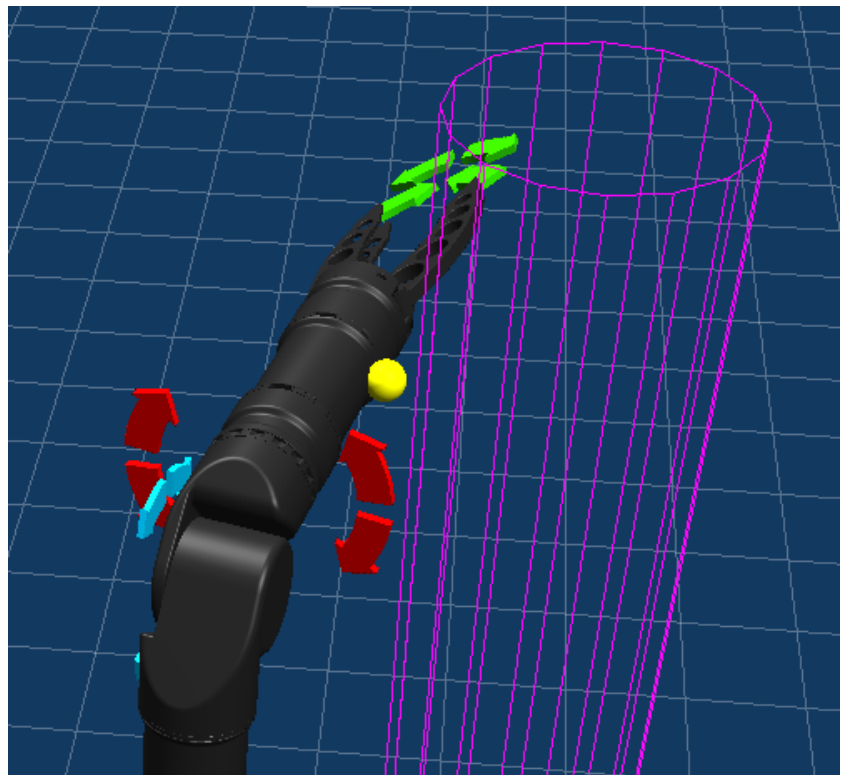


Set

8.2.2 3D View features

The Obstacles toggle shows/hides the obstacles setup for a manipulator.

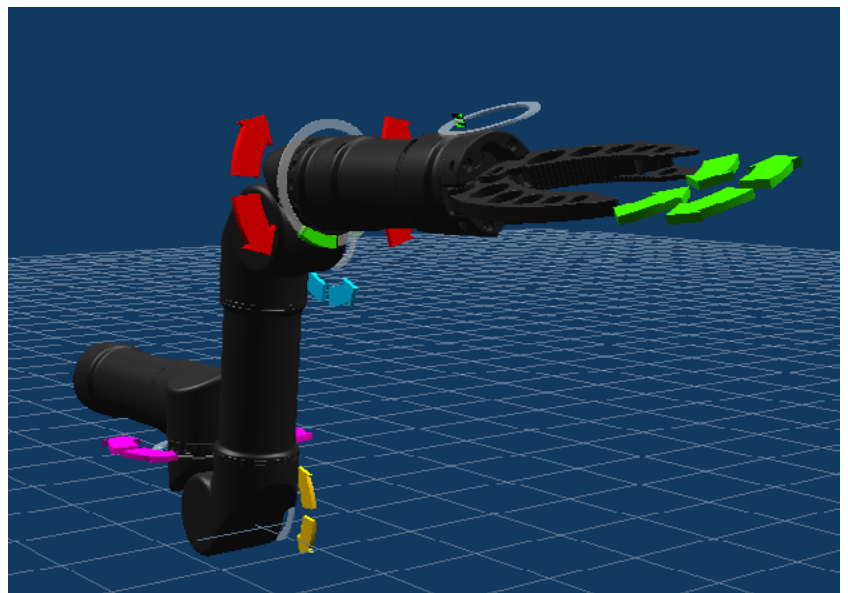
The Obstacle Collisions toggle shows/hides obstacles when a manipulator collides with them.



The Controls toggle shows/hides the control arrows on the most recently selected manipulator. It has the same functionality as selecting Velocity in the control panel.

The Probe toggle shows/hides the probe of a manipulator.

Select a parameter from the Joint Indicators dropdown to display the parameter data on the manipulator visualisation.



9 VERSION CONTROL

Version	Date published	Edited by	Comments
V1.0	25/11/2018	Shaun Barlow	Initial version
V2.0	29/10/2020	James Spinks	General updates
V3.0	03/2023	John Sumskas Yige Cao Ellie Best	Update for release of RC V3.10.7