

KINOVA

Quick Start Guide

KINOVA® Gen3 lite robot

Unbox, set up and power-on your robot in
less than 30 minutes!



Safety directives and warnings

Directives, warnings and safety considerations for the KINOVA Gen3 lite robot.

Important

Before operating the robot for the first time, ensure that you have read, completely understood and complied with all of the following directives, warnings and cautionary notes. Failure to do so may result in injury to the user, damage to the robot, or a reduction in its useful life.

Table 1: Safety





 <p>There is no mechanical brake on the robot. If the power supply is cut or an unrecoverable error occurs, be aware that the robot will fall. However, mechanisms are in place within the actuators that will slow the descent in the absence of external power.</p>	
 <p>For your personal safety, and that of others, it is strongly recommended that the following be carried out:</p>	<ul style="list-style-type: none"> • risk assessment, before integration of the robot into a given application.
 <p>For your personal safety, and that of others, never:</p>	<ul style="list-style-type: none"> • use the robot near a flame or source of heat. • exceed the maximum specified payload. • attempt to stop the robot or prevent its movement by holding it. • attempt to backdrive / force the robot joints to turn by hand while the robot is powered on. This may cause damage to the robot. The joints may be turned slowly by hand only when the robot is powered off. • install the robot base within 20 cm of your body (base contains a Wi-Fi transmitter). • use the robot to submerge objects in water. • operate or store the robot outside the recommended temperature ranges. • manipulate containers with hot or extremely cold liquids using the robot. • operate the robot in an environment which includes atomized flammable dust / particles or explosive / flammable gases, etc. • manipulate sharp objects with the robot. • drop or hit the robot, or force parts of the robot against itself. If this happens, before using the robot again move each robot joint through the entirety of its range and then run the demo sequence, verifying no errors or warnings are present. In case of any doubts, contact Kinova support. • move the robot recklessly in such a way that there is a realistic risk of injuring bystanders or breaking objects in the operating environment of the robot. • power up and boot, reboot, or upgrade firmware of the robot unless the robot is in a stable position.
 <p>For your personal safety, and that of others, always ensure that:</p>	<ul style="list-style-type: none"> • the robot does not encounter any obstacles (persons or objects). Although inherently safe in its default configuration, disabling the robot safeties requires that the user be responsible for ensuring a secure working space. • children are not left unsupervised with the robot. • the end effector never collides with a hard surface. • the grasping of objects by gripper fingers is stable, to prevent the risk of dropped or thrown objects (if using a gripper). • eye protection is worn when manipulating fragile objects with the robot. • the robot has its base securely fixed to the work surface when in operation. • before using the robot, it is confirmed that there are no warnings. • the robot is protected adequately before being used near any messy process (e.g. welding or painting).

Table 1: Safety (continued)



 Do not operate the robot when the relative humidity exceeds the maximum specified limit. In such a case, remove any object from the gripper, bring the robot to a resting position and wait until the humidity decreases to an allowable value.
 The robot is not certified for use in applications in sterile environments (e.g. food production, pharmaceuticals, medical, surgical).

Table 2: General












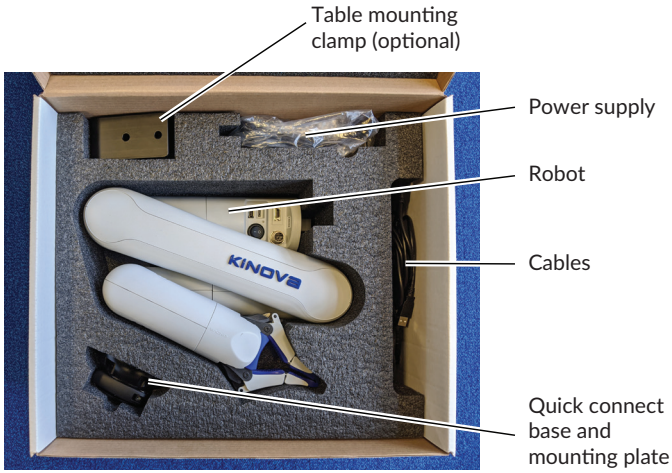
 Do not connect the USB ports on the base to one another.
 It is recommended that surge protection be used to protect the robot against external surges on the main AC line which might be caused by lightning or other abnormal conditions.
 The base must be mounted as specified in the installation section, with particular attention to the bolt pattern, strength requirements and any table or tripod-specific mounting.
 For transport, the robot and accessories should be placed in the shipping box with the shipping box secured in place to avoid excessive jostling during transport.
 Do not expose the robot to heavy rain.

Table 3: Maintenance

 Perform regular cleaning of the robot, as well as visual inspection for damage and wear, particularly the gripper and fingers.
 If the robot is exposed to rain, contact Kinova support to schedule maintenance by an authorized Kinova technician.
 Immediately following exposure to saline air conditions, contact Kinova support to schedule maintenance by an authorized Kinova technician.
 Verify robot functionality if the robot is suspected to be potentially damaged following improper manipulation of the robot or if the robot is submitted to an excessive shock or drop.
 Perform a quick routine check when starting the robot to catch defects that could occur with time.
 If the robot loses a part (for example a shell due to impact) or a part breaks, shut down the robot safely and leave it off. Contact Kinova technical support.

1

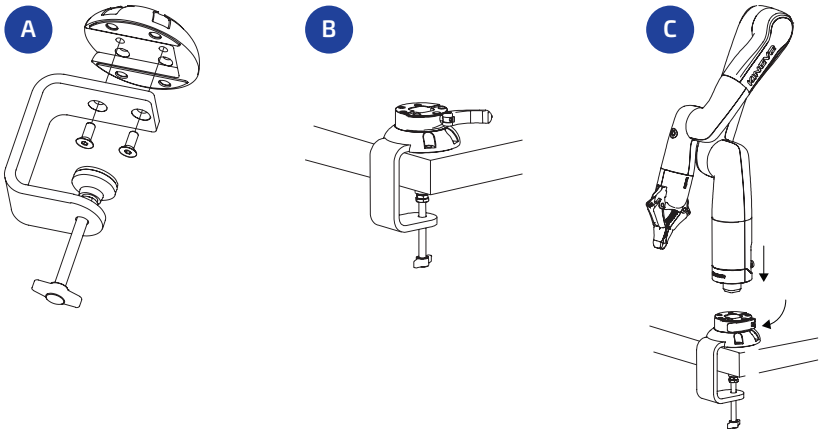
What's inside



Gamepad and cable, E-stop, expansion I/O and E-stop cable, USB to Ethernet adapter packaged separately

2

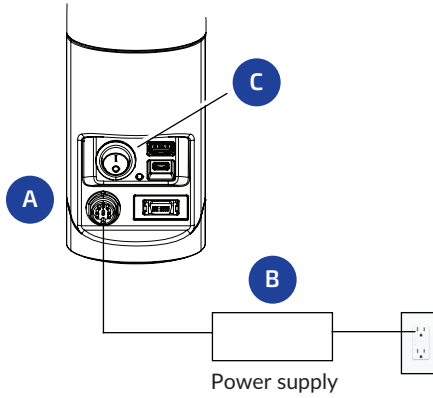
Mounting and Setup



3 Power-on

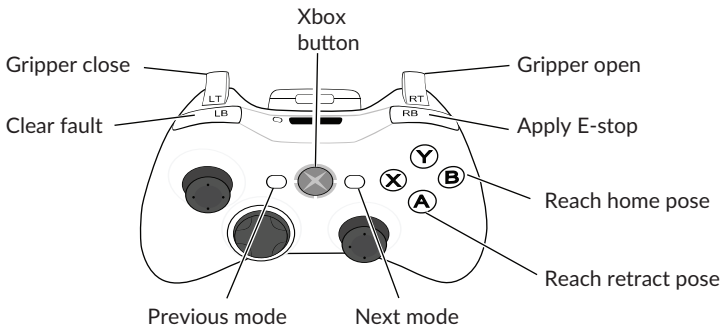
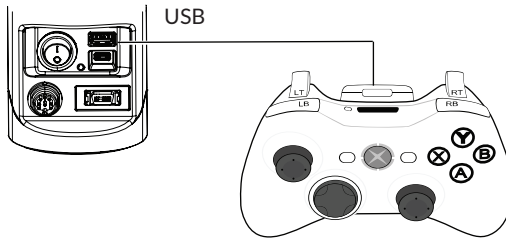
Startup sequence: LED

- Blue = booting
- Green = ready



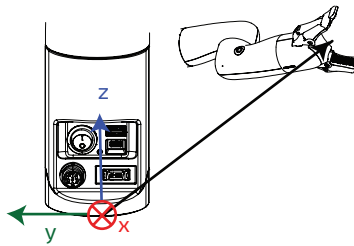
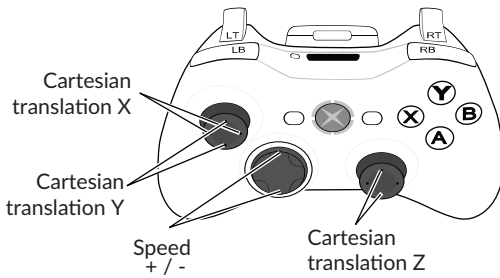
4 Control robot with gamepad

A Connecting to gamepad and common commands

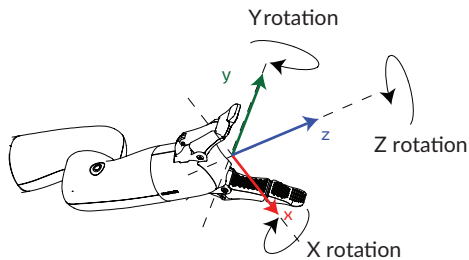
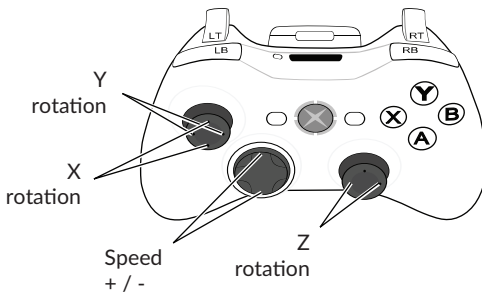


Common gamepad controls

B Twist linear control (translation)

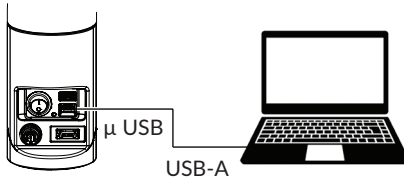


C Twist angular control (orientation)



5 Connect computer to robot

A



Robot base DHCP server assigns address to computer

6 Access robot via KINOVA® KORTEX™ Web App

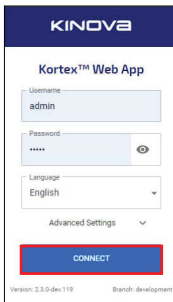
A

Web browser (Chrome recommended)



Enter robot IP address:
192.168.1.10

B



i. **Username:**
admin

ii. **Password:**
admin

iii. Press Kinova Kortex Web App

C

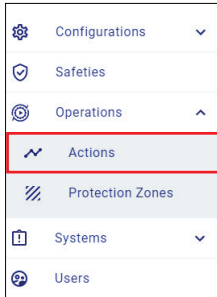
Kinova Kortex Web App



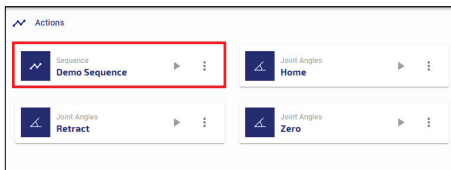
7

Play a preset trajectory (Sequence)

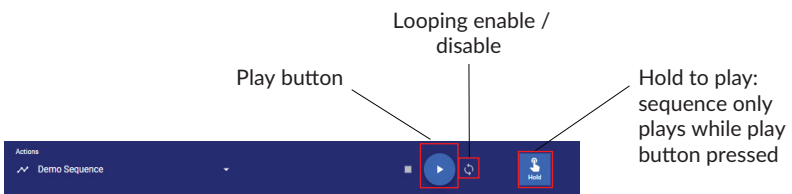
A Actions page



B Select preset sequence 'Demo Sequence'



C Play the sequence on loop



Kinova Kortex Github repository

github.com/kinovarobotics/kortex

Includes:

- Development setup instructions
- Library package for APIs
- API documentation
- API code examples

Kinova Kortex ROS Github repository

github.com/kinovarobotics/ros_kortex

- ROS package
- ROS APIs documentation
- ROS examples

Technical resources

Visit the Support section on the Kinova website for Gen3 lite technical documents.

- User guide documentation
- Technical specifications

Technical support:

<https://www.kinovarobotics.com/en/support>

Notes



