MODULAR AND ADAPTABLE ROBOTIC ARMS FOR GRASPING AND MANIPULATION TASKS

Start working with your robot quickly using new teaching modes and preferred tools and languages

Bring your projects to the next level with easy integrations and our rich Kinova® Kortex™ open API software.

- ROS, MATLAB® and Simulink® packages
- Closed-loop, low-level control at 1kHz
- Advanced programming in C++ and Python environments
- Gazebo and MoveIt simulation environments
- Intuitive web app connects from any desktop or mobile device

Kinova Gen3 robots are designed for safety, efficiency and control in real-world environments

- Ultra lightweight
- Power efficient
- Portable
- Best payload-to-weight ratio

Open technology for simple tasks or complex AI and machine learning

Regardless of your expertise, the Gen3 robotic platform enables you to test and turn your ideas into reality:

- Dynamic grasping
- Deep learning
- Mobile manipulation
- Vision-based manipulation
- Dexterous assembly
- Haptics and more...

Plus, you can count on Kinova’s excellent and reliable service and support.
# KINOVA GEN3 ULTRA LIGHTWEIGHT ROBOT

## Technical Specifications

### GENERAL

<table>
<thead>
<tr>
<th>Feature</th>
<th>6 DoF</th>
<th>7 DoF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degrees of Freedom</td>
<td>6 DoF</td>
<td>7 DoF</td>
</tr>
<tr>
<td>Payload* (full-range continuous)**</td>
<td>2.0 kg</td>
<td>2.0 kg</td>
</tr>
<tr>
<td>(mid-range continuous)</td>
<td>4.0 kg</td>
<td>4.0 kg</td>
</tr>
<tr>
<td>Total weight</td>
<td>7.2 kg</td>
<td>8.2 kg</td>
</tr>
<tr>
<td>Maximum reach</td>
<td>902 mm</td>
<td>902 mm</td>
</tr>
<tr>
<td>Maximum Cartesian translation speed</td>
<td>50 cm/s</td>
<td>50 cm/s</td>
</tr>
<tr>
<td>Actuator joint range after start-up</td>
<td>Infinite</td>
<td>(software limitation)</td>
</tr>
<tr>
<td>Power supply voltage</td>
<td>18 to 30 VDC, 24 VDC nominal</td>
<td></td>
</tr>
<tr>
<td>Average power</td>
<td>36 W</td>
<td>(25 W in standby)</td>
</tr>
<tr>
<td>Ingress protection</td>
<td>IP33</td>
<td></td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-30 °C to 35 °C</td>
<td></td>
</tr>
<tr>
<td>Torque, position, current, voltage, temperature, accelerometer and gyroscope</td>
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<td></td>
</tr>
</tbody>
</table>

### INTERFACES

**Software**
- Kinova Kortex™

**Internal communications**
- 2 x 100 Mbps Ethernet

**API compatibility**
- Windows 10, Linux Ubuntu 18.04, ROS Melodic

**Programming languages**
- C++, Python, MATLAB®

**Base interfaces**
- USB, Ethernet, HDMI, Wi-Fi, Digital I/O

**End effector interfaces**
- RS-485, Ethernet, GPIO, PC, UART, 24 V supply @1 A

**Control system frequency**
- 1 kHz

**Low-level control**
- Position, velocity, current, torque

**High-level control**
- Cartesian position/velocity, joint position/velocity, force, torque

### VISION (Optional)

**Color sensor**
- Resolution, frame rates (fps), field of view (FOV): up to 1920 x 1080 @ up to 30 fps; FOV up to 65 +/- 3° (diagonal)
- Focusing range: 30 cm to infinity

**Depth sensor (Intel® RealSense™)**
- Resolution, frame rates (fps), field of view (FOV): up to 480 x 270 (16:9) @ up to 30 fps; FOV 72 +/- 3° (diagonal)
- Minimum depth distance (min-Z): 18 cm

* without gripper
** in motion

Specifications have not been validated and are subject to change.

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