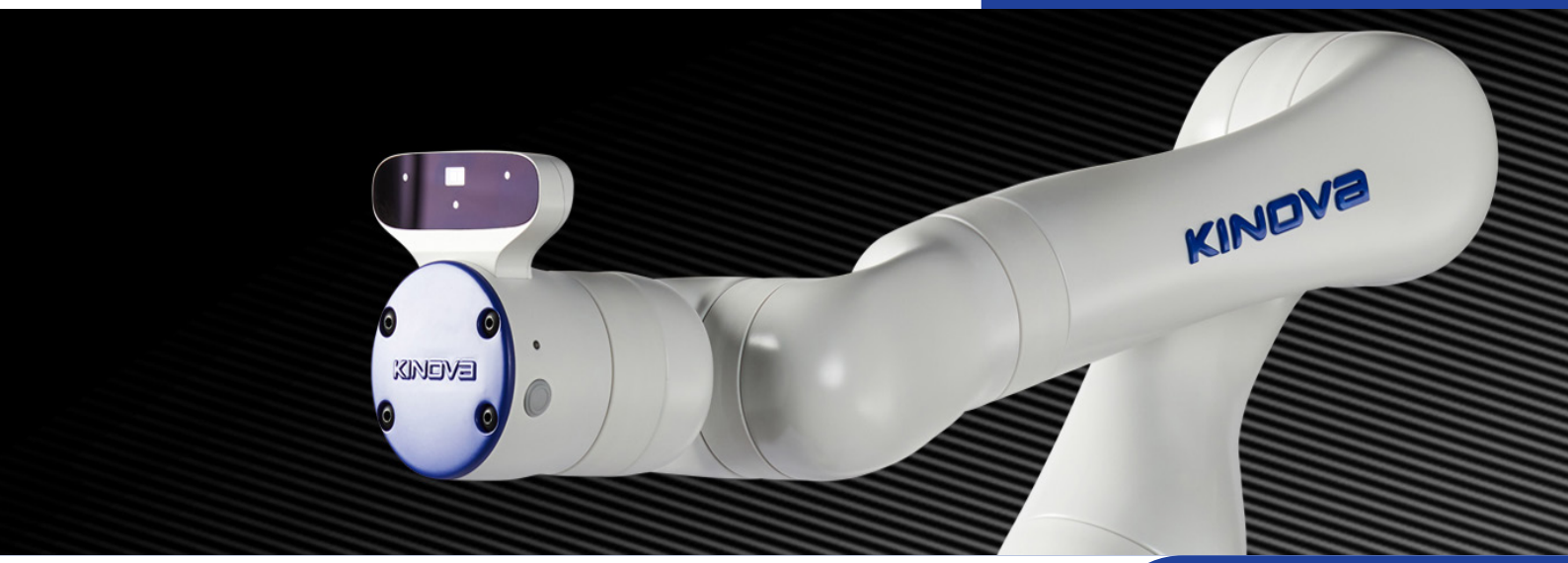
MODULAR AND ADAPTABLE ROBOTIC ARMS FOR GRASPING AND MANIPULATION TASKS

JING TIAN

KINOVA® GEN3



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...

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

Plus, you can count on Kinova's excellent and reliable service and support.

OPTIONAL INTEGRATED 2D/3D VISION MODULE

HIGH-LEVEL AND LOW-LEVEL CONTROL

OPEN END-EFFECTOR INTERFACE MODULE

SMART ACTUATORS WITH INTEGRATED TORQUE SENSORS

KINOVA GEN3 ULTRA LIGHTWEIGHT ROBOT
Technical Specifications

GENERAL

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

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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