

# KINOVA® GEN3 TOGETHER IN ROBOTICS

MODULAR AND ADAPTABLE ROBOTIC ARMS FOR GRASPING AND MANIPULATION TASKS

## 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:

- › Vision-based manipulation
- › Dexterous assembly
- › Haptics
- › Dynamic grasping
- › Deep learning
- › Mobile manipulation



OPTIONAL  
INTEGRATED 2D/3D  
VISION MODULE

HIGH-LEVEL  
AND LOW-LEVEL  
CONTROL

OPEN END-EFFECTOR  
INTERFACE MODULE

SMART ACTUATORS  
WITH INTEGRATED  
TORQUE SENSORS

## 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.

- › Advanced programming in C++ and Python
- › ROS, MATLAB® and Simulink® packages
- › Closed-loop, low-level control at 1kHz
- › Gazebo and MoveIt simulation
- › Web based GUI accessible from any device on the network

PLUS, YOU CAN COUNT ON KINOVA'S  
EXCELLENT AND RELIABLE SERVICE  
AND SUPPORT.

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

- › Ultra lightweight and portable
- › Ideal for robotics research
- › Power efficient
- › Best payload-to-weight ratio

# 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	891 mm	902 mm
Maximum Cartesian translation speed	50 cm/s	
Actuator joint range after start-up	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 20.04, ROS Noetic
Programming languages	C++, Python, MATLAB®
End effector interfaces	Ethernet, I2C, UART, GPIO, 1A supply @24V
Control system frequency	1 kHz
Low-level control	Position, velocity, current, torque
High-level control	Cartesian position/velocity, joint position/velocity, wrench

## VISION (OPTIONAL)

Color sensor	Resolution, frame rates (fps), field of view (FOV): up to 1280 x 720 @ 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