



LIMX Oli

Full-Size General-Purpose Humanoid Robot

CROSS THE LIMITS WITH OLI



Product Specifications

- Not available, ○ Optional, ⊕ Standard Version

Model	<i>Oli</i> Lite	<i>Oli</i> EDU	<i>Oli</i> Super
Height	165cm/ 5'5"	165cm/ 5'5"	175cm/ 5'9"
Shoulder Width	55cm / 21.7in	55cm / 21.7in	60cm / 23.6in
Arm Length	70cm / 27.6in	70cm / 27.6in	80cm / 31.5in
Weight (Battery Included)	≤55kg / 121.3lbs	≤55kg / 121.3lbs	≤60kg / 132.3lbs
Maximum Load Capacity(Single Arm) ^[1]	3kg / 6.6lbs	3kg / 6.6lbs	5kg / 11.0 lbs
Maximum Moving Speed	5km/h	5km/h	5km/h
Maximum Joint Torque ^[2]	150N·m	150N·m	250N·m
DOF (Total)	31	33	43
Single Leg DOF	6	6	6
Single Arm DOF	7	7	7
Waist DoF	3	3	3
Neck DoF	2	2	2
Humanoid Hand	⊕	⊕	⊕
2-Finger Gripper (1 DOF)	-	⊕	⊕
5-Finger Hand (6 DOF)	-	○	⊕
Self-Developed 2-Finger Gripper (1 DOF)	-	○	○
Self-Developed 3-Finger Gripper (4 DOF)	-	○	○
Remote Controller	⊕	⊕	⊕
Emergency Stop (Handheld)	-	○	⊕
Thermal Management	Air-Cooled Main Control Area	Optimized Air-Cooled Main Control Area	Enhanced Air-Cooled Main Control Area
Communication Interfaces	WiFi 6	WiFi 6	WiFi 6
	BLE 5.4	BLE 5.4	BLE 5.4
	-	USB3.0/3.2 x 1 (USB Hub Supported)	USB3.0/3.2 x 1 (USB Hub Supported)
	-	Gigabit Ethernet (RJ45) x 1	Gigabit Ethernet (RJ45) x 2
	-	-	Type-C x 1 (USB Hub Supported)
	-	-	5G
Power Supply Interfaces	-	24V 5A*2	24V 5A*4
		12V 5A*2	12V 5A*4

Model	<i>Oli</i> Lite	<i>Oli</i> EDU	<i>Oli</i> Super
Slide-Out Battery Module	-	⊕	⊕ (x2)
Perception Sensors	6-axis self-developed IMU	6-axis self-developed IMU	9-axis self-developed IMU
	-	Head Depth Camera	Head Depth Camera
	-	Chest Depth Camera	Chest Depth Camera
	-	-	Wrist Depth Camera Mount
	-	-	Hip Depth Camera
	-	-	LiDAR
Battery Capacity	9,500mAh	9,500mAh	9,500mAh
Charger	58.8V 10A	58.8V 10A	58.8V 10A
Computing Configuration (SoC/RAM/Storage)	Motion Control RK3588/8G/64G	Motion Control RK3588/8G/64G	Motion Control RK3588/16G/256G
	-	Perception Orin NX (100TOPS)/16G/1T	Perception Orin NX (100TOPS)/16G/2T
Computing Backpack ^[3]	-	-	○
Battery Life ^[4]	about 2h	about 1.5h	about 1.5h
Voice Interaction Module	-	⊕	⊕
LED Indicators	⊕	⊕	⊕
System Status Monitoring	⊕	⊕	⊕
Basic Motion Library ^[5]	⊕	⊕	⊕
Motion Library Expansion Service	○	⊕	⊕
Development Support	-	⊕	⊕
Remote Control API	-	⊕	⊕
Sensor API	-	Visual Perception Data	Visual Perception Data
	-	IMU Data	IMU Data
	-	-	LiDAR Data
Low-Level Motion Control API ^[6]	-	⊕	⊕
High-Level Motion Control API ^[7]	-	⊕	⊕
OTA Updates	⊕	⊕	⊕
Studio Package (Optional) ^[8]	-	○	⊕
Warranty	12 Months	12 Months	12 Months

[1] Arm's maximum load varies with extension posture. Data may vary under different postures. Please refer to the actual performance.

[2] The maximum torque of each motor varies. This value represents the maximum torque of the highest torque motor.

[3] The computing backpack configuration includes: AGX Orin chip / 64GB RAM / 275 TOPS computing power.

[4] The data above is measured in the LimX Dynamics lab. Actual data may vary due to factors such as environment, usage, device status, and software version. Please refer to the actual performance.

[5] Action libraries included: Standing, humanoid walking, waving, bowing, punching, modern dance, ethnic dance.

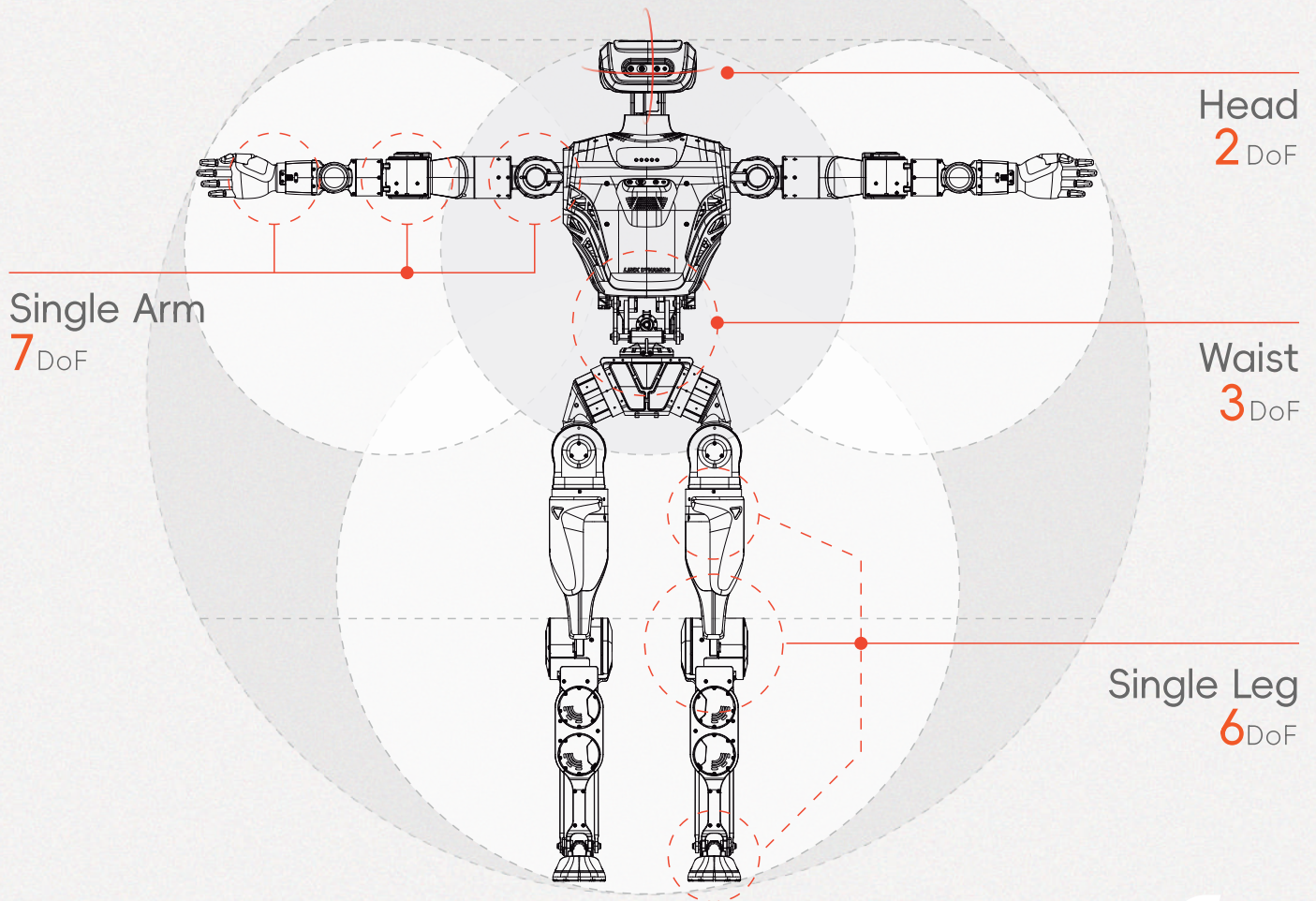
[6] Supports joint control and end-effector control.

[7] Supports humanoid walking, mobile operation, stationary operation, and remote operation.

[8] Supports hardware status management, voice configuration management, data collection management, motion choreography management, and one-click simulation verification.

Full-Size. Full-DoF.

As a full-size humanoid robot, LimX Oli stands **165cm** tall and boasts impressive **31** degrees of freedom (DoF), combined with outstanding **motion performance**, Translating any motion you imagine into smooth, human-like movement.



Full-Size
Human-sized



Height:
165cm
Weight:
55kg

End-
effectors



Multiple Options
Available

Modular
Design

Fast Disassembly
& Assembly



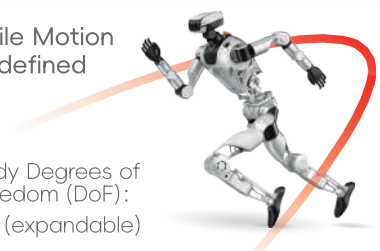
Multi-Sensor
Fusion

6-Axis IMU
Head-Mounted Depth
Camera
Chest-Mounted Depth
Camera
Abundant External Interfaces



Agile Motion
Redefined

Body Degrees of
Freedom (DoF):
31 (expandable)



| Modular SDK
| Intuitive High-Level Interfaces

| Direct-Access Low-Level Interfaces
| Full Python Development Support

Comprehensive Perception. Boundless Exploration.

Equipped with Self-Developed IMU and depth cameras, plus extensive electrical interfaces for seamless integration of external sensors like LiDAR and additional cameras, enabling comprehensive perception capabilities for complex environment motion control and diverse application scenarios.

Self-Developed IMU

IMU

Head-Mounted Depth Camera

Intel® RealSense™ D435i

Chest-Mounted Depth Camera

Intel® RealSense™ D435i

Ethernet Port

1,000Mbps RJ45

USB Ports

3.0/3.2

Power Interfaces

24V 5A
12V 5A



Lowering the Barrier to Reinforcement Learning,
Advancing the Embodied Intelligence Revolution.



Python support



Modular SDK



High-Level & Low-Level Interfaces



Motion Libraries supporting OTA Update



Zero gap URDF for Sim2Real



Offering Comprehensive User Manuals,
Developer Documentation, and Case Studies



Support Major Simulation Platforms:
NVIDIA Isaac Sim, MuJoCo, Gazebo, etc.

Learn More <https://github.com/limxdynamics>

Support for Innovators, Developers, System Integrators with Continuous Updates