



G1 Humanoid by Unitree



Fully Autonomous Robot

The G1 Humanoid by Unitree is the new benchmark in humanoid robotics, merging agility, power, and intelligence. With 23 to 43 motors delivering an exceptional range of motion and a maximum torque of 120 N·m, it replicates and enhances human gestures with precision. Its three-fingered dexterous hand, equipped with advanced force control, smoothly manipulates a variety of objects, while its 360° sensors (3D LIDAR and Intel RealSense depth camera) ensure secure navigation. Compact at approximately 35 kg with a battery life of 2 hours, the G1 is the ideal solution to automate tasks and optimize operations. Adopt the G1 Humanoid for intelligent, high-performance collaboration.

Key Benefits

Dex3-1 force control
dexterous hand

**3-finger force control
dexterous hand**

(Optional installation of tactile sensor arrays)



Body Size Value

Weight about
35kg

Height about
127cm



Total degrees of freedom

≤ **43** pieces



Maximum Joint Torque

120N.m



Battery Life

About **2h**

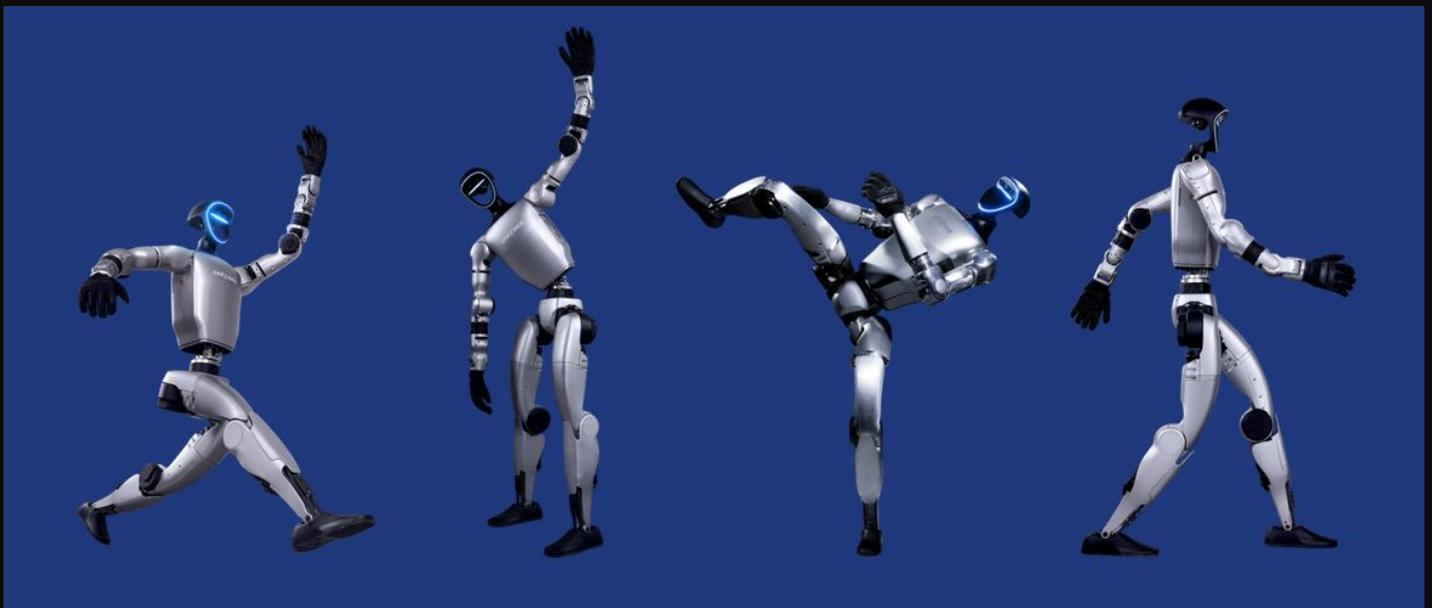


360°Detection perception

3D LIDAR+ Depth Camera



Product Characteristics



Product Characteristics

Specification	G1 Basic	G1 EDU
Size (Stand)	1270mm × 450mm × 200mm	1270mm × 450mm × 200mm
Size (Fold)	690mm × 450mm × 300mm	690mm × 450mm × 300mm
Weight (With Battery)	About 35kg	About 35kg+
Total Degrees of Freedom (Joint Freedom)	23	23~43
Single Leg Degrees of Freedom	6	6
Waist Degrees of Freedom	1	1 + (Optional 2 additional waist DOF)
Single Arm Degrees of Freedom	5	5
Single Hand Degrees of Freedom	/	7 (Optional Force control of three-fingered hand) +2(Optional 2 additional wrist degrees of freedom) *Three-fingered dexterous hand Dex3-1 Parameter: The thumb has 3 active degrees of freedom; the index finger has 2 active degrees of freedom; the middle finger has 2 active degrees of freedom. **Dex3-1 can optionally be installed with tactile sensor arrays
Max Torque of Knee Joint	90N·m	120N·m
Arm Max Load	About 2Kg	About 3Kg
Calf + Thigh Length	0.6M	0.6M
Arm Span	About 0.45M	About 0.45M
Extra Large Joint Movement Space Hip Joint Movement	Waist z-axis joint: ±155° Knee joint: 0° ~ -165° P±154° R~30° +170° Y±158°	Waist z-axis joint: ±155° Knee joint: 0° ~ -165° P±154° R~30° +170° Y±158°
Full Joint Hollow Electrical Routing	YES	YES
Joint Encoder	Dual Encoder	Dual Encoder
Cooling System	Local Air Cooling	Local Air Cooling
Power Supply	13 String Lithium Battery	13 String Lithium Battery
Basic Computing Power	8-Core High-Performance CPU	8-Core High-Performance CPU
Sensing Sensor	Depth Camera + 3D LiDAR	Depth Camera + 3D LiDAR
Wi-Fi 6, Bluetooth 5.2	YES	YES
High Computing Power Module	/	NVIDIA Jetson Orin (optional)
Smart Battery (Quick Release)	9000mAh	9000mAh
Charger	54V 5A	54V 5A
Manual Controller	YES	YES
Battery Life	About 2h	About 2h
Upgraded Intelligent OTA	YES	YES
Secondary Development	/	YES
Warranty Period	8 months	1 year

Note: G1 basic supports only basic movements (e.g., greet, hug, applaud, move forward/ backward/ sideways) and does not support secondary development.

