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UNITREE

Unitree's First Universal Humanoid Robot

H1 Series



Unitree H1-2 Parameter

3D LIDAR I
LIVOX-MID360

Depth camera
Intel RealSense D435i

Shoulder degrees of freedom 3
Peak torque 120N.m ,
super large load

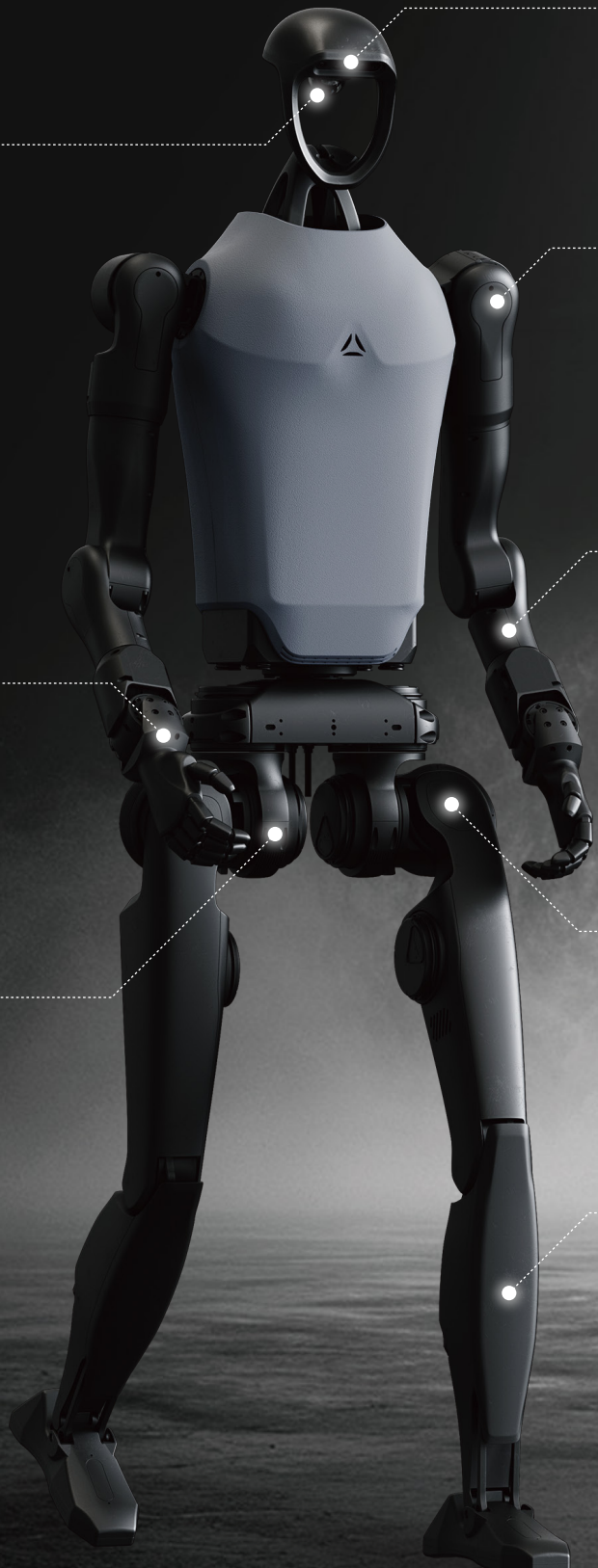
Elbow degrees of freedom 1
Improve the accuracy
of task execution

Hollow electrical
wiring design
Without external cables

Single leg degrees of freedom
Hip x 3+ Knee x 1
+ Ankle x 2=6

Wrist degrees of freedom 3
Flexible operation
Optional
dexterous hands

Core sports
module
Joint max
torque 360N.m



Unitree H1-2

Full-size Universal Humanoid Robot

Body Size Value	360° Depth Sensing	Degree of freedom
Height about 178CM Weight about 70kg	3D LIDAR + Depth Camera	27
Max Torque of Arm Joint	Max Torque of Leg Joint	Peak Torque Density
120N.m	360N.m	189N.m/Kg

H1-2 Highlight Exploration

Dual Encoder
Accurate and stable
Without fear of interference

Optional Higher
Computing Power
Optional as needed
Unlimited upgrades

All Cables Are Built-in
Compact design
Improves mobility

Compute Module
More Reasonable Layout
Optional 5 boards
inside the fuselage

Ergonomics
Bionic Shape
Highly technological
appearance



Unitree H1 Parameter



Unitree H1

Full-size universal humanoid robot

Body Size Value	360° Depth Sensing	Mobility
Height about 180CM Weight about 47kg	3D LIDAR + Depth Camera	Moving speed of 3.3m/s Potential mobility > 5m/s
Endurance	Max Joint Torque	Peak Torque Density
Battery capacity: 864Wh, quickly replaceable	360N.m	189N.m/Kg

The most powerful universal humanoid robot of its counterparts with similar specifications in the world.

The advanced powertrain provides the highest level of speed, power, maneuverability and flexibility.



The first full-size universal humanoid robot in China that can run and do backflips

Possessing a stable gait and highly flexible movement capabilities, it is able to walk and run autonomously in complex terrains and environments.



Unitree M107 Joint Motor

Ultrastrong power performance, significantly improved in terms of agility, speed, load capacity, endurance, and more.



M107 PK International mainstream joint motor

Product			
	M107	T-1	T-2
Max torque OR pulling force (3.5cm arm equivalent)	360N.m	180N.m	8000N
	10000N		
Weight	1.9kg	2.26kg	2.2kg
Max Torque/ Tension/Weight Ratio	189 / 5263	79	3636
Hollow shaft	YES	YES	-
Dual Encoder	YES	YES	YES
Dimensions(mm)	107 × 74	100 × 130	60 × 180

Parameter

Model	H1	H1-2
Picture		
Key Dimensions	(1520+285)mm × 570mm × 220mm	(1503+285)mm × 510mm × 287mm
Thigh and Calf Length	400mm × 2	400mm × 2
Total Arm Length	338mm × 2	685mm
DOF of Each Leg	5 (Hip × 3 + Knee × 1 + Ankle × 1)	6 (Hip x 3 + Knee x 1 + Ankle x 2)
DOF of Each Arm	4 (Expandable)	7 (Shoulder x 3 + Elbow x 1 + Wrist x 3)
Total Weight	About 47kg	About 70kg
Joint output bearing	Industrial grade crossed roller bearings (high precision, high load capacity)	Industrial grade crossed roller bearings (high precision, high load capacity)
Core Joint motor	Low inertia high-speed internal rotor PMSM (permanent magnet synchronous motor, better response speed and heat dissipation)	Low inertia high-speed internal rotor PMSM (permanent magnet synchronous motor, better response speed and heat dissipation)
Ultimate Torque of Joint Unit	Knee Torque About 360N.m, Hip Joint Torque About 220N.m, Ankle Torque About 59N.m, Arm Joint Torque About 75N.m	Knee Torque About 360N.m, Hip Joint Torque About 220N.m, Waist Joint About 220N.m, Ankle Joint About 75x2N.m.
Mobility	Moving speed of 3.3m/s,Potential mobility > 5m/s	Moving speed <2m/s
Battery	Battery capacity 15Ah(0.864KWh), Max Voltage 67.2V	Battery capacity 15Ah(0.864KWh), Max Voltage 67.2V
Control and Perception Computing Power	Standard configuration: Intel Core i5(Platform Function) , Intel Core i7(User Development) Optional Configuration: Intel Core i7 or Nvidia Jetson Orin NX	Standard configuration: Intel Core i5(Platform Function) , Intel Core i7(User Development) Optional Configuration: Intel Core i7 or Nvidia Jetson Orin NX (up to three)
Sensor Configuration	3D LIDAR + Depth Camera	3D LIDAR + Depth Camera
Dexterous Hand	Optional (in development)	Optional RH56 or other ambidextrous hands
Arm joint performance (peak torque)	/	Shoulder: About 120N.m, Elbow: About 120N.m Wrist: About 30N.m
Arm normal load	/	Peak: About 21Kg; Rated: About 7Kg

*Note: The product continues to iterate and optimize, please refer to the actual receipt of the goods prevail.

*The appearance of the shipping version may be different from that of the official website version. If you are concerned about the appearance details, please communicate with the sales staff before purchasing.

*There are parameter differences between different products, please choose according to your needs.

*This product is a civilian robot. We kindly request that all users refrain from making any dangerous modifications or using the robot in a hazardous manner.

*Please visit Unitree Robotics Website for more related terms and policies, and comply with local laws and regulations.