

UNITREE A2

Stellar Explorer



High Power, Smart Control, Multi-Scenario Ready



Agile & Swift Lightweight Extended Endurance

Weighs around 37kg, fully loaded(25kg) can continuously walk 3h/12.5km
Unloaded can continuously walk 5h/20km.
Lighter, Faster, Tougher



Industrial-Grade Legged Robot Heavy Payload Standard

Premium mobile hardware platform,
open for rapid development



Conquer Rugged Terrain with Ease



Wheel-Leg Option Available Unleash Greater Performance

Dual-Sided Perception Zero Blind Spots Greater Accuracy ^[3]

2 industrial LiDARs(front & rear), HD camera+front light to detect the environment ahead



Dual Battery System

「Hot-Swappable Dual Batteries·Unlimited Runtime」 :

Seamless Battery Swap, Uninterrupted Mission

Dual-battery parallel design:swap without stopping, the eternal heart for extreme missions.

Reliable triple power system guarantees from -20°C to 55°C .



Unitree A2 Parameter ^[3]

Peak Joint Torque

Approx.
180N.m



Extreme Wailing Ability

Max Step Height
30cm

Max Slope Angle
45°



Load Capacity

Continuous Walking Load
25kg

Standing Load
100kg



Material

Aluminum Alloy+High-Strength
Engineering Plastic



45°

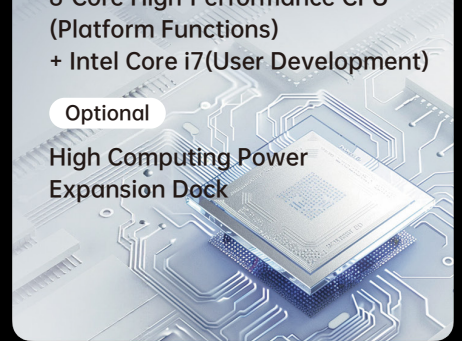
Computing Module

Standard

8-Core High-Performance CPU
(Platform Functions)
+ Intel Core i7(User Development)

Optional

High Computing Power
Expansion Dock



Tracking Module ^[3]

Remote control or
smart follow choose freely

Front Camera

HD Camera ×1

Voice Intercom Microphone

Seamless communication
in any scenario

Rich Expansion Options

Optional rails & external user
interface

Perception Sensors

Industrial-grade LiDAR ×2

Smart Battery

Dual batteries: 9000mAh×2
Dual slots, hot-swappable

Front Light

Bright illumination
Lighting every step ahead

Rich External Interfaces

- RS485 × 2
- CAN × 2
- Gigabit Ethernet × 2
- USB 3.0 Type-C(8-Core CPU) × 2
- USB 3.0 TypeC (Intel Core i7) × 2
- Power Output: 12V / 24V / BAT

12 High Power-Density Motors

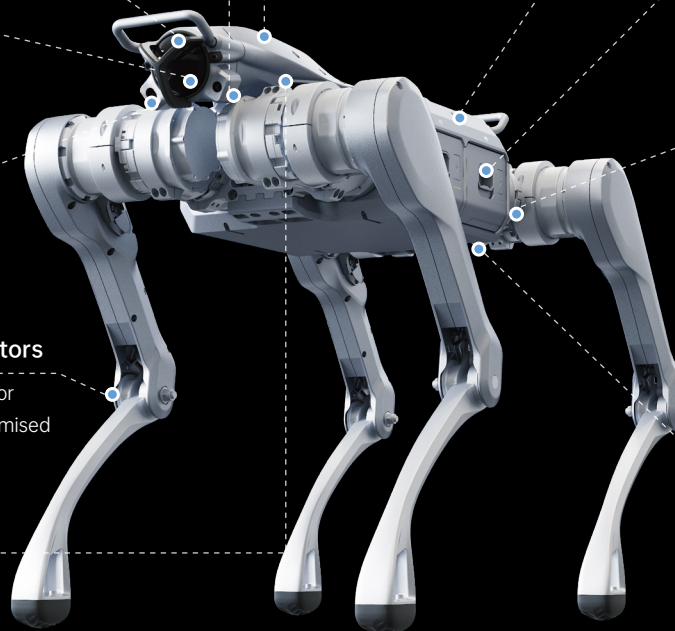
Low-inertia, high-speed inner rotor
PMSM Surging power, uncompromised
by heavy payloads

Powerful Computing Core

- Standard: 8-Core high-performance
CPU(platform functions)+Intel Core i7
(user development)
- Optional: high computing power
expansion dock

Speaker

Real-time broadcast for
operational safety



Mechanical Parameters	Model	A2		A2 PRO	
	Size (Standing)	820mm x 440mm x 570mm			
	Size (Lying Prone)	720mm x 550mm x 220mm			
	Material	Aluminum Alloy + High-Strength Engineering Plastic			
	Weight (without battery)	About 31kg			
	Weight (with battery)	About 37kg			
	Degrees of Freedom (Joint Motors)	12			
	Joint Bearings	Industrial-grade crossed roller bearings (high precision, high load capacity)			
	Joint Motors	Low-inertia, high-speed inner rotor PMSM(enhanced response & heat dissipation)			
	Max Joint Torque	About 180 N.m			
	Range of Motion	Body: -58~58°	Thigh: -134°~180°/-89°~225°	Shank: -158°~-30°	
Electrical Characteristics	Supply Voltage	50.4V			
	Joint Encoder	Dual encoders			
	Cooling System	Local air Cooling			
	Power Supply	Dual slots, dual batteries			
	Battery Capacity	Single Battery 9000mAh (453.6Wh)		Dual Batteries 18000mAh (907.2Wh)	
	Wi-Fi 6, Bluetooth 5.2	YES			
	Speaker	YES			
	Microphone	Microphone array			
	Front Light	YES			
	Wireless vector follow module	/ (Optional)		Expand (Optional)	
	GPS/4G	/ (Optional)		Expand (Optional)	
	Sensor	LiDAR × 1 + HD Camera × 1		LiDAR × 2 + HD Camera × 1	
	Control & Compute	Standard: 8-Core high-performance CPU (platform)+Intel Core i7 (user development)		Standard: 8-Core high-performance CPU (platform) + Intel Core i7 (user development) Optional: high computing power expansion dock	
	External Interfaces	RS485 × 2、CAN × 2、Gigabit Ethernet × 2、USB3.0-TypeC(8-Core CPU) × 2 USB3.0-TypeC (Intel Core i7)x2、Power Output: 12V / 24V / BAT			
Performance Metrics	Operating Temperature	-20°C ~ 55°C			
	Battery Life	No Load: >5hours continuous walking, approx. 20km With 25kg Load: >3 hours continuous walking, approx. 12.5km			
	Max Standing Load	About 100kg			
	Continuous Walking Load	About 25kg			
	Slope Walking Capability	About 45°			
	Stair Climbing Capability	Max Step Height: 30cm			
	Max Climb Height	About 0.5 ~ 1m			
	Speed	0~3.7 m/s (Up to ~5 m/s)			
	Replace Wheel-leg	Optional			
	Ingress Protection Rating	IP56		IP56-IP67 (Core components rated IP67)	
Other	Smart OTA Upgrade	Continuous Upgrades			
	Secondary Development [1]	Supported			
	Warranty [2]	12 Months			

[1]For detailed functions, please refer to the Secondary Development Manual.

[2]For detailed warranty terms, please refer to the Product Warranty Manual.

[3]The above parameters may vary in different application scenarios and different configurations, please contact sales before purchasing.

[4]This quadruped robot has a complex structure and powerful dynamics. Users must keep a safe distance from the robot at all times. Please use with caution.

[5]Product appearance may be subject to future upgrades and changes, please refer to the actual situation.

[6]Some example features shown on this page are under development and testing, and will be made available to users gradually.

[7]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.



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