

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



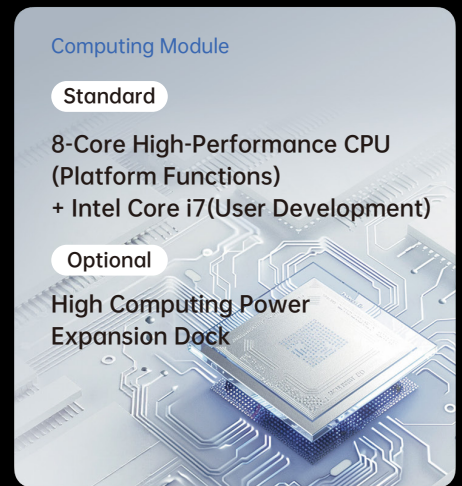
Dual Battery System

「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]



- Tracking Module [3]**
Remote control or smart follow choose freely
- Perception Sensors**
Industrial-grade LiDAR x2
- Front Light**
Bright illumination
Lighting every step ahead
- 12 High Power-Density Motors**
Low-inertia, high-speed inner rotor
PMSM Surging power, uncompromised
by heavy payloads
- Speaker**
Real-time broadcast for
operational safety
- Front Camera**
HD Camera x1
- Voice Intercom
Microphone**
Seamless communication
in any scenario
- Rich Expansion Options**
Optional rails & external user
interface
- Smart Battery**
Dual batteries: 9000mAhx2
Dual slots, hot-swappable
- Rich External Interfaces**
 - RS485 x 2
 - CAN x 2
 - Gigabit Ethernet x 2
 - USB 3.0 Type-C(8-Core CPU) x 2
 - USB 3.0 TypeC (Intel Core i7) x 2
 - Power Output: 12V / 24V / BAT
- Powerful Computing Core**
 - Standard: 8-Core high-performance
CPU(platform functions)+Intel Core i7
(user development)
 - Optional: high computing power
expansion dock

	Model	A2	A2 PRO	
Mechanical Parameters	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 x 2, CAN x 2, Gigabit Ethernet x 2, USB3.0-TypeC(8-Core CPU) x 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.

UNITREE

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