

UNITREE Go2

New Creature of Embodied AI

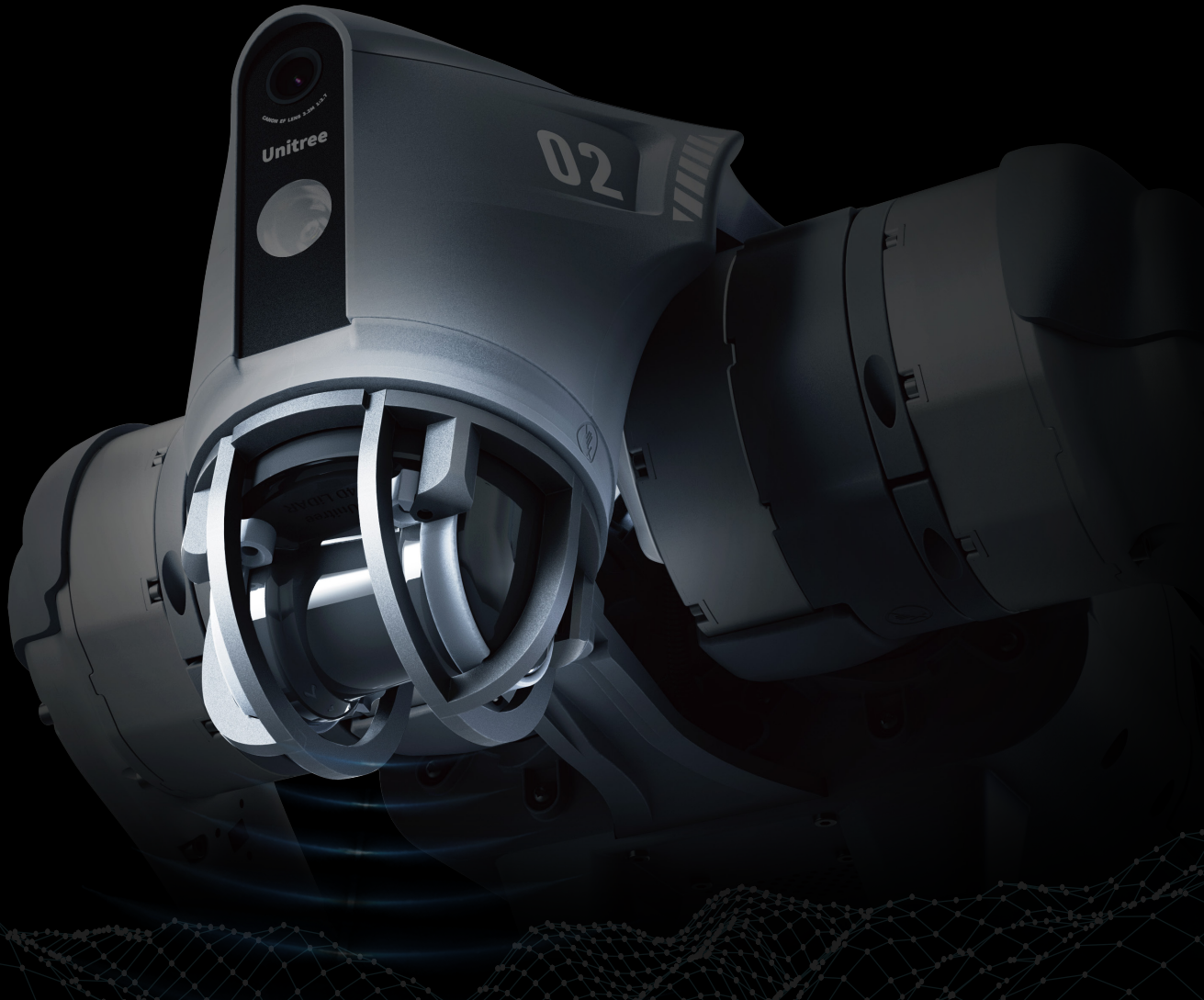
New and Improved
Returning with Glory

Infinite Revolution



Standard Ultra-wide 4D LIDAR Upgrades Recognition System by 200%

Go2 features with Unitree's self-developed 4D LIDAR L1 with 360° x90° hemispherical ultra-wide recognition, super small blind spot and a minimum detection distance as low as 0.05m, which makes Go2 realize all-terrain recognizing.



360°x90°

Ultra-wide Scanning

0.05m

Blind Spot

(Radar accuracy decreases at close range detection)

20m

@90% Reflectivity

21600 points/s

Effective Frequency

43200 points/s

Frequency of Sample

100Klux

Anti-highlight Protection

※Laser Safety Class: Class 1(IEC60825-1:2014) Laser Safety

Your New Intelligent Friend

Tracking Module

Remote-controlled or automatic tracking

Front Camera

Image transmission Resolution 1280*720
FOV 120 °
Ultra wide angle lens deliver rich clarity

Front Lamp

Brightly lights the way ahead

Intercom Microphone

Effective communication with no scenario restrictions

Self-retracting Strap

Easy to carry and load things

Powerful Core

- Motion controller
- High-performance ARM processor
- Improved AI algorithm processor
- External ORIN NX/NANO

Hardware Upgrade

- 3D LIDAR
- 4G ESIM Card
- WiFi6 with Dual-band
- Bluetooth 5.2

for stable connection and remote control

Smart Battery

Standard 8000m Ah battery
Long-endurance 15000m Ah battery
Protection from over-temp, overcharge and short-circuit

Foot Force Sensor

Receiving foot perception in real time

4D LiDAR L1

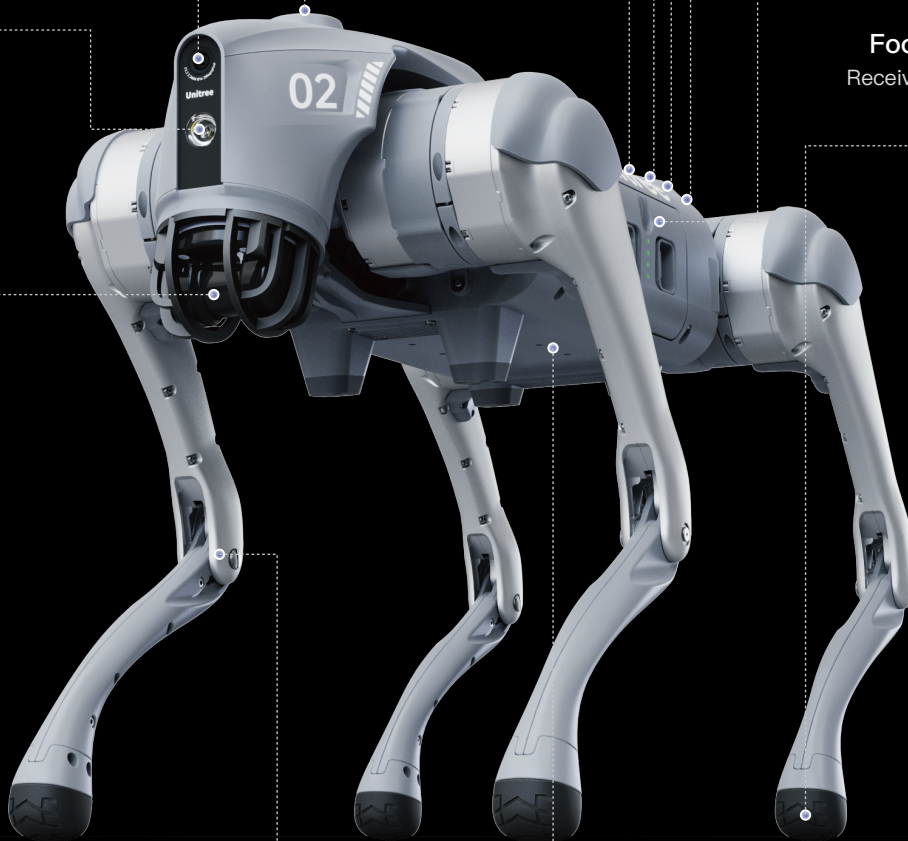
360°*90° omnidirectional ultra-wide-angle scanning allows automatic avoidance with small blind spot and stable operation

12 Knee Joint Motors

Strong and powerful
Beautiful and simple
Brandy new visual experience

Speaker for Music Play

listen to music as your pleasure



New Intelligence——Unitree Go2



Intelligent Side-follow System 2.0

By adopting the new wireless vector positioning and control technology, the positioning accuracy is technically upgraded by 50%, the remote control distance is over 30m^[1], and combined with the optimised obstacle avoidance strategy, it can make the robot better traverse complex terrain.

[1] In open spaces with no shelter



Motor performance enhanced by 30%

Go2 boasts a peak joint torque of 45N.m^[2], a new internal trace connecting technique, and heat pipe coolers to decrease temperature effectively.

[2] The maximum torque in the table refers to the maximum torque of the largest joint motor; the actual maximum torque varies for the 12 joint motors.



Battery capacity and endurance upgraded by 150%

Go2 is equipped with a battery capacity increased to 8,000mAh, as a 15,000mAh ultra-long life battery is optional, and a voltage increased to 28.8V to improve motor efficiency, power and stability.

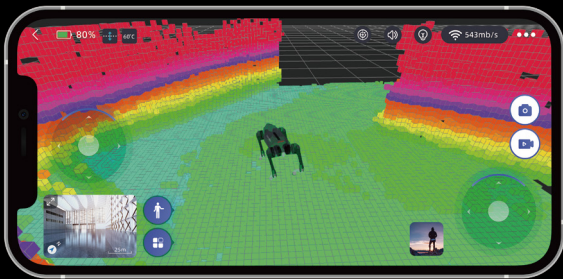


Various actions and poses

Go2 boasts a variety of poses such as jumping, stretching, shaking hands, cheering, pouncing, and sitting down.

Intelligent Interaction

Have great fun with the APP



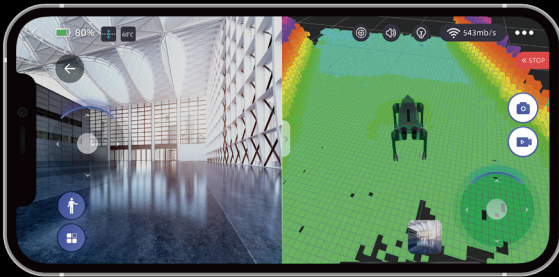
Intelligent Avoidance Precise and Agile

Equipped with 4D LiDAR L1, the robodog detects, captures and draws the 3D real world for user.



Graphical Programming Simple Yet Smarter

Optimise the graphical programming function, make it easy to complete the program design by simple drag, drop and connection. Make programming beginners easy to start and innovate.



Hd Picture Quality Real-time and Stable [1]

A new App realizes HD image transmission and real-time remote monitor. Built-in 4G and eSIM enables more stable connection and remote control.

[1] Transformation and quality varies considerably in different network environments.



OTA Upgrades

Keep Improving and Evolving to be Smarter

With user authorisation, the robot automatically connects to a cloud-based OTA service to upgrade its own programs to continuously improve the user experience.



Parameters

| Mechanical & Electron | Type | AIR | PRO | EDU |
|-----------------------|---|---|-----------------------------|-----------------------------|
| | Stand Height | 70×31×40cm | | |
| | Weight (With Battery) | About 15kg | | |
| | Material | Aluminium alloy + High strength engineering plastic | | |
| | Voltage | 28V~33.6V | | |
| | Peaking Capacity | About 3000W | | |
| Performance | Payload | ≈7kg (MAX ~ 10kg) | ≈8kg (MAX ~ 10kg) | ≈8kg (MAX ~ 12kg) |
| | Speed | 0~2.5m/s | 0~3.5m/s | 0~3.7m/s (MAX~5m/s) |
| | Max Climb Drop Height | About 15cm | About 16cm | |
| | Max Climb Angle | 30° | 40° | |
| | Basic Computing Power | ○ | 8-core High-performance CPU | |
| Joint | Peak Joint Torque ^[1] | ○ | About 45N.m | |
| | Range of Motion | Body: -48~48° | Thigh: -200°~90° | Shank: -156°~-48° |
| | Intra-joint Circuit (knee) | ● | ● | ● |
| | Joint Heat Pipe Cooler | ● | ● | ● |
| Force Sensor | Super-wide-angle 3D LIDAR | ● | ● | ● |
| | Wireless Vector Positioning Tracking Module | ○ | ● | ● |
| | HD Wide-angle Camera | ● | ● | ● |
| | Foot-end Force Sensor | ○ | ○ | ● |
| Feature List | Basic Action | ● | ● | ● |
| | Auto-scaling Strap | ○ | ● | ○ |
| | OTA Upgrades | ● | ● | ● |
| | RTT2.0 Image Transmission | ● | ● | ● |
| | Graphical Programme | ● | ● | ● |
| | Front Lamp | ● | ● | ● |
| | WiFi6 with Dual-band | ● | ● | ● |
| | Bluetooth 5.2/4.2/2.1 | ● | ● | ● |
| | 4G | ○ | ● | ● |
| | Voice Function ^[2] | ○ | ● | ● |
| | ISS 2.0 | ○ | ● | ● |
| | Intelligent Detection and Avoidance | ● | ● | ● |
| | Charging Pile Compatibility | ○ | ○ | ● |
| | Secondary Development ^[3] | ○ | ○ | ● |
| Accessories | Handheld Controller | Optional | | Standard |
| | Docking Station | ○ | | Optional Nvidia Jetson Orin |
| | Smart Battery | Standard (8000mAh) | | Long endurance (15000mAh) |
| | Endurance | About 1-2h | | About 2-4h |
| | Charger | Standard (33.6V 3.5A) | | Fast charge (33.6V 9A) |

※The above parameters may vary in different scenarios and configurations, please subject to actual situations.

If any change in the appearance of the product, please refer to the actual product.

※ 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.

[1] The maximum torque in the table refers to the maximum torque of the largest joint motor; the actual maximum torque varies for the 12 joint motors.

[2] Voice functions include offline voice interaction, commands, intercom and music play.

[3] For more information, please read the secondary development manual.

Extensions

XT16 LIDAR



| | |
|------------------------|--|
| Model | XT16 |
| Size (Without Bracket) | Φ100.0 / 103.0 mm*76mm |
| Voltage Range | 9–36V DC |
| Laser Wavelength | 905nm |
| Fov | Horizontal 360°, Vertical 30° (-15°~+15°) |

MID360 LIDAR



| | |
|------------------------|-----------------------------------|
| Model | MID-360 |
| Size (without bracket) | 65mm*65mm*60mm |
| Voltage range | 9–27V DC |
| Laser wavelength | 905nm |
| FOV | Horizontal 360°, Vertical -7°~52° |

Depth Camera



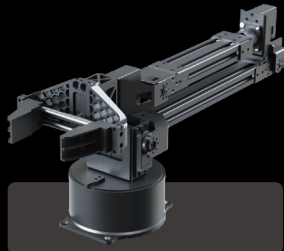
| | |
|------------------------|---------------------------------------|
| Model | D435i |
| Size | 124mm*29mm*26mm |
| Min Depth Distance | 0.105m |
| Depth Image Resolution | 1280*720 @ 30fps; 848*480 @ 90 fps |
| Depth Field Of View | 86° * 57° (±3°) |

Docking Station



| | |
|---------------------|---|
| Model | Orin Nano 8GB、Orin NX 16GB |
| Voltage range | 16–60V DC |
| Computing power | Nano supports up to 40 Tops NX supports up to 100 Tops |
| Expansion interface | USB3.0–Type A X1 USB3.0–Type C X2 Gigabit Ethernet port (standard RJ45) X2 100Gb Ethernet (GH1.25–4PIN) X1 M8 Air Plug Interface X1 |

D1 Servo Mechanical Arm



| | |
|-------------------------------|--|
| Model | D1 |
| Weight | About 2.37kg |
| Degree Of Freedom | 6 |
| Payload | About 500g |
| Max Armspan | 670mm (with jaws) |
| Repeated Positioning Accuracy | About 0.2 cm |
| Power Requirement | 24V 2.5A (MAX 5A) |
| Interface | DC5.5–2.1 |
| Motor Type | Servo |
| Power | 60W |
| Control Interface | Control communication interface RJ45 (ETH) |

Remote Controller (screen+cameras)



| | |
|----------------------------|--------------------------|
| Number of cameras | 2 |
| Camera Resolution | 1920x1080 |
| Wireless frequency | 2.4GHz |
| Searchlight Power | 30W |
| Horn power | 30W |
| Alarm light | Red and blue sharp-flash |
| Remote control with screen | MK15 |



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