

Unitree

Go2

Overview and Key Facts

Scientific and Technological Sovereignty to Unitree Go 2

Based on the technical innovation and the industrial leadership, Unitree
upgraded its technology, returning for
a smart and improved partner



Introduction to Unitree Go2

The **Unitree Go2** is a next-generation quadruped robot designed for:

- Robotics education
- Research and development
- AI + machine learning projects
- Navigation, SLAM, and autonomous tasks
- Demonstrations and field experiments

It is fast, stable, intelligent, and supports advanced programming using **SDK2**, **Python SDK**, and **ROS2**.

Key Features of Go2

- 4-legged robot with high stability
- Powerful motors with large torque
- Built-in **3D LiDAR** for mapping and obstacle detection
- Depth camera for perception
- Supports **voice control**, **navigation**, **teleoperation**, and **AI tasks**
- Very fast and highly agile
- Long battery life
- Supports **secondary development**



Unitree Go2

New and improved intelligent bionic quadruped robot

Super Recognition System

4D LIDAR L1

Max Running Speed

Approx. 5m/s

Peak Joint Torque

Approx. 45N.m

Wireless Module
WiFi 6/Bluetooth/4G

Ultra-long battery Endurance

Approx. 2h—4h

Intelligent Side-follow System

ISS 2.0

(Long battery life measured in real life)

Tracking module

Remote-controlled or automatic tracking

Intercom Microphone

effective communication with no scenario restrictions

Self-retracting strap

Easy to carry and load things

More stable, more powerful with advanced devices

- 3D LiDAR
- 4G ESIM Card
- WiFi6 with Dual-band
- Bluetooth 5.2 for stable connection and remote control

Front camera

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

Front lamp

Brightly lights the way ahead

Powerful Computing Core

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

4D LiDAR L1

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

Smart battery

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

12 aluminum alloy precision joint motors

Strong and powerful
Beautiful and simple
Brandy new visual experience

Speaker for music play

listen to music as your pleasure



Foot force sensor

Receiving foot perception in real time

Specifications Comparison for different Models

Mechanical Specifications:

Dimension of standing	70 x 31 x 40 cm	70 x 31 x 40 cm	70 x 31 x 40 cm
Dimension of crouching	76 x 31 x 20 cm	76 x 31 x 20 cm	76 x 31 x 20 cm
Weight (with battery)	About 15 kg	About 15 kg	About 15 kg
Material	Aluminium alloy + High strength engineering plastic	Aluminium alloy + High strength engineering plastic	Aluminium alloy + High strength engineering plastic

Electric Parameter:

Specification	AIR	PRO	EDU
Voltage	28V ~ 33.6V	28V ~ 33.6V	28V ~ 33.6V
Peaking capacity	About 3000W	About 3000W	About 3000W
Payload	≈ 7 kg (MAX ~ 10 kg)	≈ 8 kg (MAX ~ 10 kg)	≈ 8 kg (MAX ~ 12 kg)

Performance Parameters:

Specification	AIR	PRO	EDU
Speed	0 ~ 2.5 m/s	0 ~ 3.5 m/s	0 ~ 3.7 m/s (MAX ~ 5 m/s)
Max Climb Drop Height	About 15 cm	About 16 cm	About 16 cm
Max Climb Angle	30°	40°	40°
Basic Computing Power	-	8-core High-performance CPU	8-core High-performance CPU

Kinematics Parameters:

Specification	AIR	PRO	EDU
Aluminum knee joint motor	12 set	12 set	12 set
Range of Motion (body)	-48° ~ 48°	-48° ~ 48°	-48° ~ 48°
Range of Motion (thigh)	-200° ~ 90°	-200° ~ 90°	-200° ~ 90°
Range of Motion (shank)	-156° ~ 48°	-156° ~ 48°	-156° ~ 48°

Force Sensor parameters:

Specification	AIR	PRO	EDU
Intra-joint circuit (knee)	•	•	•
Joint Heat Pipe Cooler	•	•	•
Super-wide-angle 3D LiDAR	•	•	•
Wireless Vector Positioning Tracking Module	•	•	•
HD Wide-angle Camera	•	•	•
Foot-end force sensor	○	○	•

Feature List

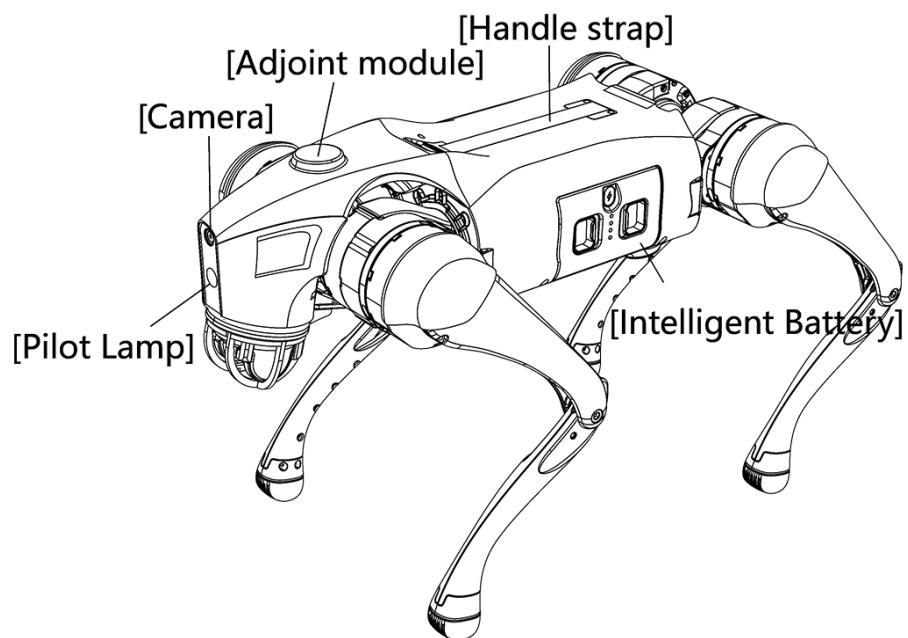
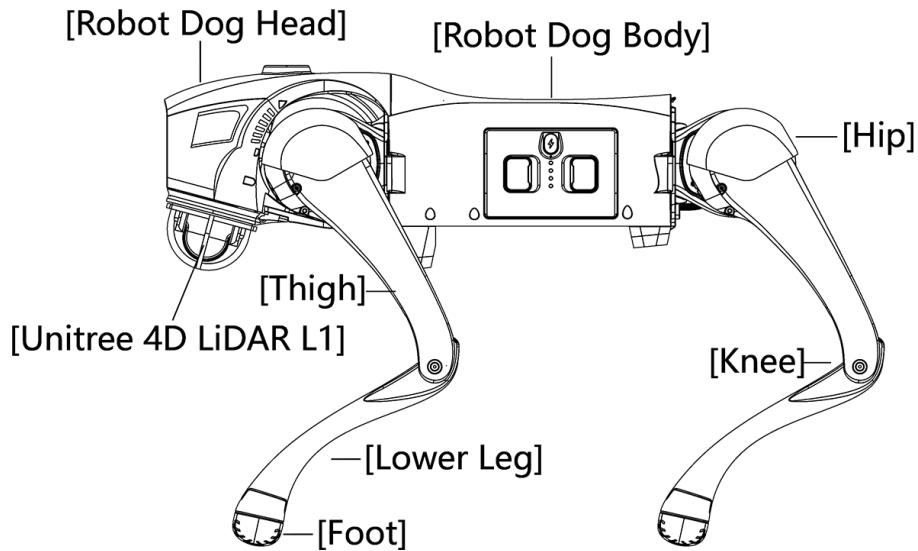
Feature	AIR	PRO
Basic Action	●	●
Auto-scaling strap	○	○
Upgraded Intelligent OTA	●	●
RTT 2.0 image transmission	●	●
Graphical programme	●	●
Front lamp	●	●
WiFi6 with Dual-band	●	●
Bluetooth 5.2/4.2/2.1	●	●
4G module (Only supports mainland China and Europe)	○	○
Voice Function	○	○
ISS 2.0 Intelligent side-follow system	○	○
Intelligent detection and avoidance	○	○
Charging Pile Compatibility	●	●

Accessories

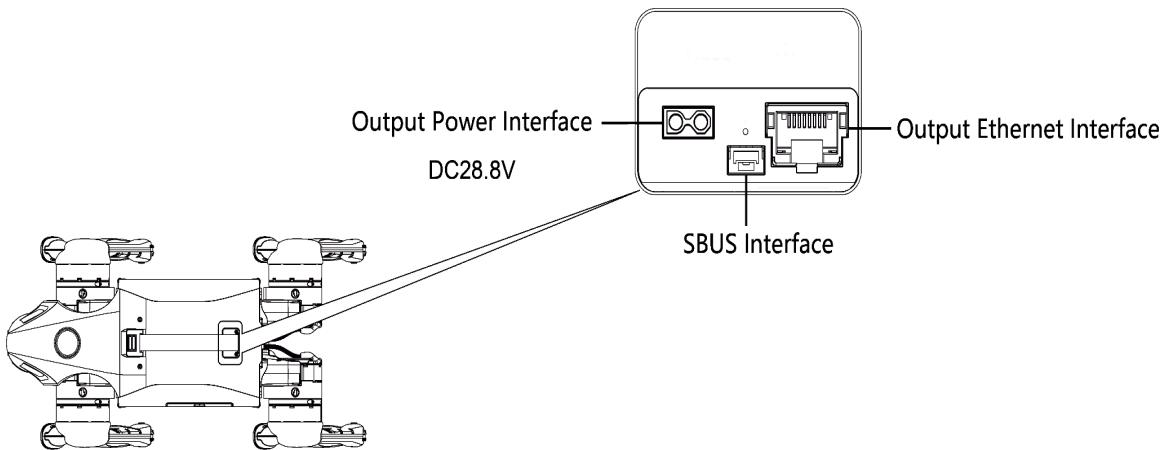
Accessory	AIR	PRO	EDU
Manual controller	optional	optional	optional
High computing power module	-	-	Nvidia Jetson Orin (optional) (40~100 tops computing power)
Smart battery	standard (8000mAh)	standard (8000mAh)	long endurance (15000mAh)
Battery life	About 1-2h	About 1-2h	About 2-4h
Charger	standard (33.6V 3.5A)	standard (33.6V 3.5A)	fast charge (33.6V 9A)

Hardware architecture

GO2 EDU



Electrical interface



- **Power interface**

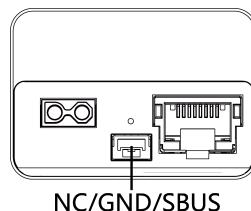
DC 28.8V output, connected to Orin NX 8/16GB high computing power module BAT input.

- **Ethernet interface**

Standard RJ45 interface, connected to User PC/Orin NX 8/16GB, RJ45 Ethernet interface.

- **SBUS interface**

Used for communication connection on a universal remote control. This interface does not provide power output, and the interface definition (from left to right) is NC/GND/SBUS.



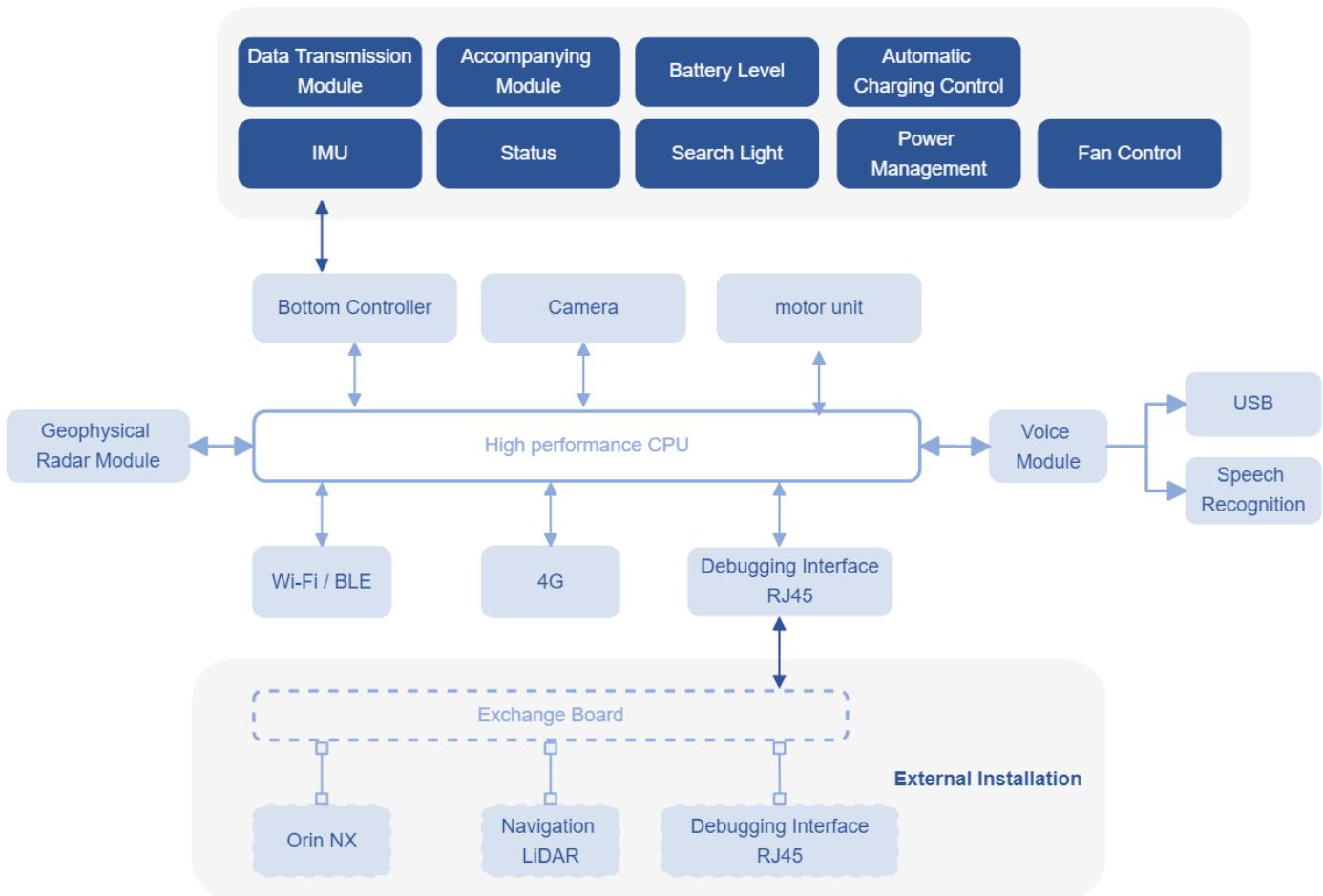
LIDAR

The head 4D LiDAR-L1 adopts Unitree Unitree's self-developed 4D radar technology (3D position+1D grayscale), which can achieve high-speed laser ranging sampling 21600 times per second, obtain real-time 3D information of the surrounding environment, and can be used for motion obstacle avoidance to cope with various complex road conditions!

Unitree 4D LiDAR	
Model	L1
Model	75(W)x75(D)x65(H)mm
Supply Voltage	12V DC
Laser wavelength	905nm
FOV	360°*90°



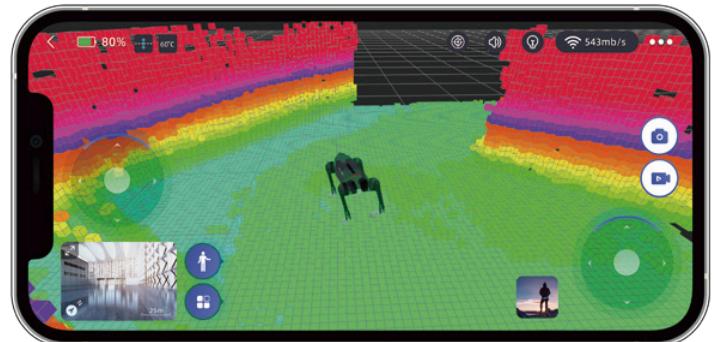
Hardware Architecture



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.



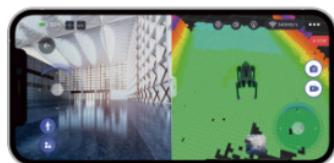
Graphical Programming

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



A new App realizes HD image transmission
and real-time remote monitor. Built-in 4G and



OTA Upgrades-Keep Improving and Evolving to be Smarter

eSIM enables more stable connection and remote control.

