GATEIN TECHNOLOGY
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PRODUCT PRESENTATION · HUMANOID ROBOT

Unitree R1

Ultra-lightweight, Fully Customizable

A 1.21 m, about 25 kg humanoid with up to 40 degrees of freedom, ultra-lightweight and fully customizable, with secondary development on R1 EDU.

Presented by GateIn Technology · Exclusive Unitree partner in Egypt



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Unitree R1 Hardware at a glance



Humanoid binocular camera
Ultra-wide-angle visual perception

Computing module
8-core CPU + GPU

Microphone array
4-mic array

Smart battery
Quick release, quick replacement

Speaker
Stereo, dual speakers (3 W × 2)

Single arm DOF
Shoulder × 3 + elbow × 2

Waist DOF
2 DOF

Single leg DOF
6 DOF

Huge power
High-power joint motors

Unitree R1 Key figures

1210 mm
HEIGHT
1210 × 357 × 190 mm standing

≈25 kg
WEIGHT
With battery

24
TOTAL DOF · R1
24–40 on R1 EDU

6 + 5 + 2
DOF PER LEG · ARM · WAIST

≈2 kg
MAX ARM LOAD [1]

≈1 h
BATTERY LIFE

40–100
TOPS · R1 EDU
NVIDIA Jetson Orin, optional

8-core
CPU · BASIC COMPUTING

[1] The arm's maximum load varies greatly with arm extension posture.

R1 vs R1 EDU Mechanical dimensions

Parameter	R1	R1 EDU
Height, width, thickness (standing)	1210 × 357 × 190 mm	1210 × 357 × 190 mm
Weight (with battery)	About 25 kg	About 25 kg
Degrees of freedom (total joints)	24	24–40
Single leg DOF	6	6
Single arm DOF	5	5
Waist DOF	2	2
Head DOF	—	2
Dexterous hand	—	Optional
Max torque of arm joint [1]	About 2 kg	About 2 kg
Calf + thigh length	675 mm	675 mm
Forearm + upper arm length	435 mm	435 mm

Unitree R1 Joints & electrical

Parameter	R1 and R1 EDU
Joint output bearing	Crossed roller bearings, double hook ball bearings (both)
Joint motor	Low-inertia, high-speed internal-rotor PMSM: better response and heat dissipation (both)
Waist joint range	Y ±150°, R ±30°
Knee joint range	-10° to +148°
Hip joint range	Y ±157°, P -168° to +146°, R -60° to +100°
Electrical routing	Hollow + internal routing
Joint encoder	Dual + single encoder
Cooling · power supply	Local air cooling · lithium battery
Audio · connectivity	4-mic array, speaker, WiFi 6, Bluetooth 5.2, humanoid binocular camera

R1 vs R1 EDU Computing, accessories & support

Parameter	R1	R1 EDU
Basic computing power	8-core CPU	8-core CPU
High-power computing module	—	NVIDIA Jetson Orin, optional (40–100 TOPS)
Smart battery (quick release) · charger	Yes	Yes
Manual remote control	Yes	Yes
Battery life	About 1 h	About 1 h
Upgraded intelligent OTA	Yes	Yes
Secondary development [2]	—	Yes
Warranty period [3]	8 months	12 months

[2] See the secondary development manual. [3] See the warranty brochure. Parameters vary with scenario and configuration. The humanoid is powerful: keep a safe distance from people. Some sample functions are still in development. Civilian robot: no dangerous modifications or hazardous use.

GateIn One accountable partner

We don’t just ship the Unitree R1. GateIn designs, supplies, installs, integrates and supports Unitree robots for universities, schools, government and industry, from the first plan to long-term support.

+120
ROBOTS SUPPLIED IN EGYPT
Industrial, service and educational

91
LABORATORIES
Across 45 institutions

+30
STRATEGIC & GLOBAL PARTNERS

5
YEARS OF DELIVERY
Since 2021

Design | Sourcing | Installation | Integration | Training | Long-term Support

An integrator, not a vendor.

Exclusive Unitree partner for Egypt

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Let’s plan your Unitree R1 deployment

gateintech.com · info@gateintech.com · +20 109 806 5088
Mohandessin, Giza, Egypt

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