



R1

R1 EDU

Mechanical Dimensions

Weight (With Battery)	About 25kg	About 25kg
Degree of Freedom(Total Joints)	24	24-40
Single Leg Degrees of Freedom	6	6
Single Arm Degrees of Freedom	5	5
Waist Degrees of Freedom	2	2
Head Degrees of Freedom	/	2
Dexterous Hand	/	Optional
Joint output bearing	Crossed roller bearings, Double Hook Ball Bearings	Crossed roller bearings, Double Hook Ball Bearings
Joint motor	Low inertia high-speed internal rotor PMSM(permanent magnet synchronous motor,better response speed and heat dissipation)	Low inertia high-speed internal rotor PMSM(permanent magnet synchronous motor,better response speed and heat dissipation)
Maximum Torque of Arm Joint 【1】	About 2kg	About 2kg
Calf + Thigh Length	675	675
Forearm + Upper Arm Length	435	435
Joint Movement Space	Waist Joint: Y±150° R±30° Knee Joint: -10°~+148° Hip Joint: Y:±157° P:-168° ~+146° R:-60° ~+100°	Waist Joint: Y±150° R±30° Knee Joint: -10°~+148° Hip Joint: Y:±157° P:-168° ~+146° R:-60° ~+100°
Electrical Routing	Hollow + Internal Routing	Hollow + Internal Routing
Joint Encoder	Dual + single encoder	Dual + single encoder
Cooling System	Local air cooling	Local air cooling
Power Supply	Lithium battery	Lithium battery
Basic Computing Power	8-core high-performance CPU	8-core high-performance CPU
Microphone Array	4-Mic Array	4-Mic Array
Speaker	YES	YES
WiFi 6 、Bluetooth 5.2	YES	YES
Humanoid Binocular Camera	YES	YES

Electrical Characteristics

Accessories	Smart Battery (Quick Release)	YES	YES
	Charger	YES	YES
	Manual Controller	YES	YES
	Battery Life	About 1h	About 1h
Other	Upgraded Intelligent OTA	YES	YES
	Secondary Development 【2】	/	YES
	Warranty Period 【3】	8 Months	12 Months

[1] The maximum load of the arm varies greatly under different arm extension postures.

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

[3] For more detailed warranty terms, please read the product warranty brochure.

[4] The above parameters may vary in different scenarios and configurations, please subject to actual situation.

[5] The humanoid robot has a complex structure and extremely powerful power. Users are asked to keep a sufficient safe distance between the humanoid robot and people. Please use with caution

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

[7] Some sample functions on this page are still being developed and tested, and will be opened to users in the future.

[8] Currently, the global humanoid robot industry is in the early stages of exploration. Individual users are strongly advised to thoroughly understand the limitations of humanoid robots before making a purchase.

[9] 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.

[10] Please visit Unitree Robotics Website for more related terms and policies, and comply with local laws and regulations.