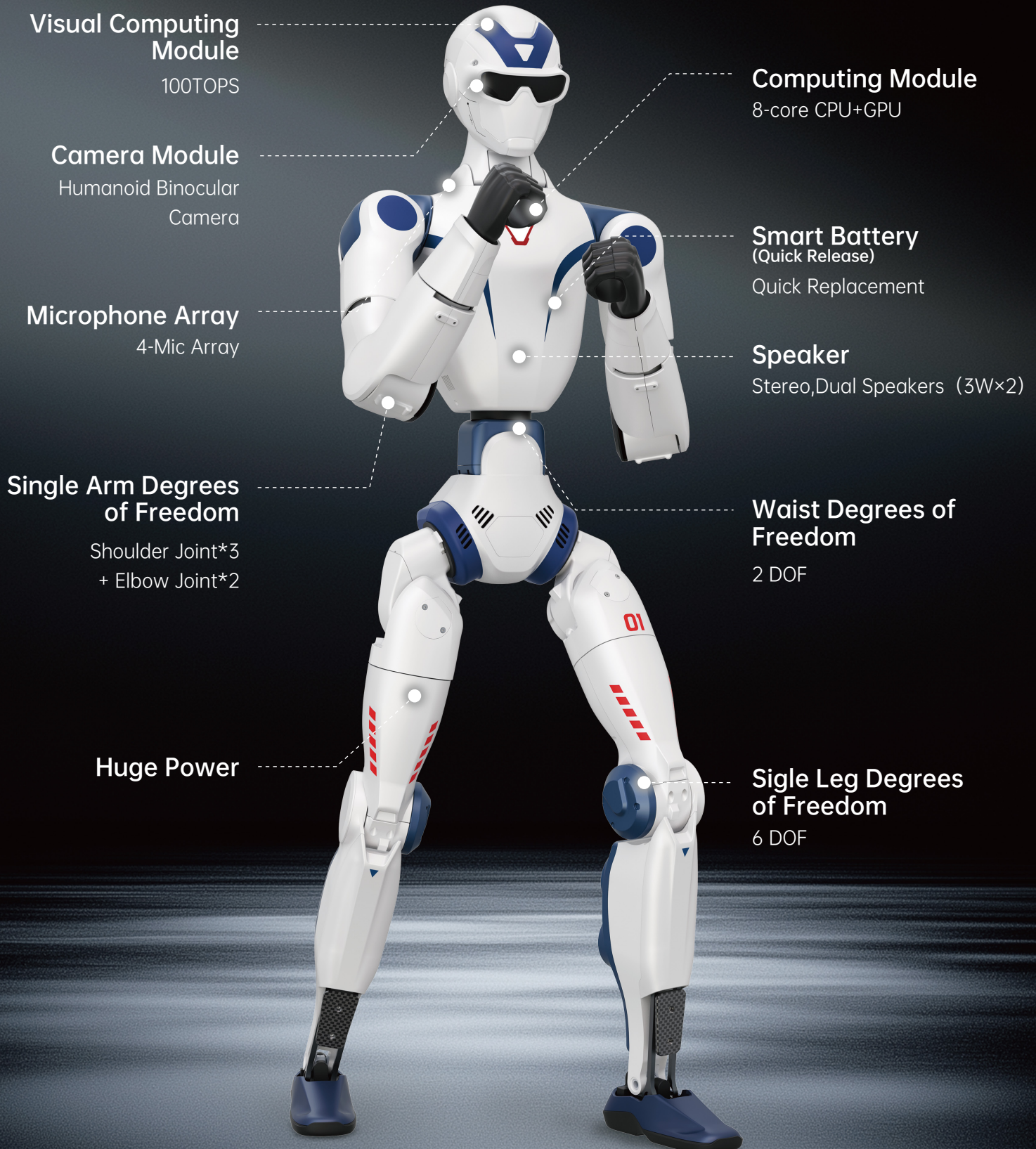


UNITREE R1

Ultra-lightweight



Unitree R1 Parameters



Mechanical Dimensions	Model	R1 AIR	R1	R1 EDU
	H × W × T (Stand)	1230×357×190mm		
	Weight (With Battery)	About 27kg	About 29kg	About 29kg
	Degree of Freedom (Total Joints)	20	26	26–40
	Single Leg Degrees of Freedom	6	6	6
	Single Arm Degrees of Freedom	4	5	5
	Waist Degrees of Freedom	/	2	2
	Head Degrees of Freedom	/	2	2
	Dexterous Hand	/	/	Optional
	Joint output bearing	Crossed roller bearings, Double Hook Ball Bearings		
	Joint motor	Low inertia high-speed internal rotor PMSM(permanent magnet synchronous motor, better response speed and heatdissipation)		
	Max Torque of Arm Joint [1]	About 2kg		
	Calf + Thigh Length	600		
	Forearm + Upper Arm Length	420		
	Joint Movement Space	Knee Joint: -10°~+139° Hip Joint: Y:±157° P:-168° ~+146° R:-60° ~+100°	Waist Joint: : Y±150° R:±30° Knee Joint: -10° ~+139° Hip Joint: Y:±157° P:-168° ~+146° R:-60° ~+100°	
Electrical Characteristics	Electrical Routing	Hollow + Internal Routing		
	Joint Encoder	Dual + single encoder		
	Cooling System	Local air cooling		
	Power Supply	Lithium battery		
	Basic Computing Power	8–core CPU		
	Microphone Array	4–Mic Array		
	Speaker	YES		
	Wifi6、Bluetooth 5.2	YES		
	Humanoid Binocular Camera	Monocular camera	Binocular camera	Binocular camera
Accessories	High-Power Computing Module	/	/	NVIDIA Jetson Orin Optional (40–100Tops)
	Smart Battery (Quick Release)	YES	YES	YES
	Charger	YES	YES	YES
	Manual Remote Control	YES	YES	YES
Other	Battery Life	About 1h	About 1h	About 1h
	Upgraded Intelligent OTA	YES	YES	YES
	Secondary Development[2]	/	/	YES
	Warranty Period [3]	6 Months	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 features a complex structure and immense power output. Users are required to maintain a sufficient safety distance from the robot at all times. Please operate with extreme caution.

[6] The product appearance is subject to change. Please refer to the final 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.

UNITREE

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