



Robot humanoide DR02

Un robot humanoide de nueva generación para uso industrial. Como el primer robot humanoide del mundo con clasificación de protección IP66, capaz de operar en exteriores en cualquier condición climática, el DR02 ofrece soluciones inteligentes, fiables y eficientes para diversas industrias, redefiniendo los límites de aplicación de los robots humanoides industriales.



Cual es su necesidad. Le damos la solución

IP66 Dustproof & Waterproof Protection

Designed for all-weather outdoor operations.



High Motion Performance

- Walking speed: 1.5 m/s
- Maximum speed: 4 m/s
- Stair climbing height: 25 cm
- Slope angle: 20°



Wide Operating Temperature Range

-20°C to 55°C



Comprehensive Hardware Configuration

- High computing power: Up to 275 TOPS of AI performance
- Multi-sensor fusion:



Key Specifications

Depth cameras **x3**

LiDAR sensor **x1**

Arm joints with independent degrees of freedom **x7**

Waist joints with independent degrees of freedom **x3**

Height: 175cm

Weight: 75kg

Arm length: 68cm excluding end effector

Degrees of freedom: 31↑ excluding end effector



Swappable battery

x1 Wide-angle camera

x2 Neck joints with independent degrees of freedom

High-performance computing module

x6 leg joints with independent degrees of freedom



*All parameters are based on official test data; actual performance may vary.
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DEEPRobotics



official website

Parameters of Humanoid Robot DR02

Parameter type	Parameter	DR02	DR02 Pro
Mechanical Dimension	Height	175cm	175cm
	Weight	65kg	75kg
	Arm length	68cm (Without End Effector)	68cm (Without End Effector)
	Degree of Freedom(Total Joints)	21	31
	Single Leg Degrees of Freedom	6	6
	Single Arm Degrees of Freedom	4	7
	Waist Degrees of Freedom	1	3
	Head Degrees of Freedom	0	2
Performance	Maximum walking speed	1.5m/s	1.5m/s
	Peak speed	4m/s	4m/s
	Continuous Stair Climbing	25cm	25cm
	Climbing Angle	20°	20°
	Arm Maximum Payload (Rated)	6kg	6kg
	Arm Maximum Payload (Peak)	≥10kg	≥10kg
	Overall load	20kg	20kg
Battery parameters	Battery Performance		1440Wh
	Endurance Ability		About 3h
Computational Power	Stand Computational Power module	Octa-core 64-bit industrial-grade processor (16GB+128GB)	Octa-core 64-bit industrial-grade processor (16GB+128GB)
	High computational power module	-	AGX AI CPU
Control and Perception	LiDAR	-	×1 (360°×90°, ~860000pts/s)
	Depth camera	-	×3
	Wide-angle camera	×1	×1
	Microphone	×1	×1
	Speaker	×1	×1
External Interface	Communication Interface	1000M-Base-Ethernet×1	1000M-Base-Ethernet×2 USB3.0×1 UART×1
	Power supply Interface		72V×1 24V×1
Environment parameters	Operating Temperature	-20°C~55°C	-20°C~55°C
	Ingress Protection	IP66	IP66
Basic Motion (Stable walking without perception, obstacle crossing capability)		●	●
Demonstration / Special Actions[3]		●	●
Perceptive Motion Capability[4]		○	●
SLAM Localization and Mapping[5]		○	●
Autonomous Navigation[6]		○	●
Omnidirectional Obstacle Avoidance[7]		○	●
Voice Interaction[8]		●	●
Quick Whole-body Disassembly		●	●
Indicator Lights		● (×6)	● (×6)
Secondary Development		Support motion development	Support for motion/sensing development
Dual-arm Operation Capability[9]		○	●
OTA Upgrade		●	●
Warranty Information			
Joint Motors		6 months	6 months
Battery, Camera, LiDAR, Control System, Others		8 months	12 months
Standards list			
Full-size humanoid robot (battery not included) x1, Battery x1, Charger x1, Shipping case x1, Product information booklet x1, Warranty card x1, Certificate of conformity x1, Handle x1			

1. Battery

Item	Specification
Battery Type	Rechargeable Ternary Lithium-ion Battery
Battery Weight	≤9kg
Rated Capacity	20Ah
Rated Energy	1440Wh
Nominal Voltage	72V
Charging Time	2.5~3h

2. Core Board

Item	Specification
Model	RK3588
CPU	8-core 64-bit (4×Cortex-A76 + 4×Cortex-A55), 2.2GHz
GPU	ARM Mali-G610 MP4
NPU	6 TOPS
Memory	16GB
Storage	128GB
Operating System	Ubuntu 20

3. Handheld Device

Item	Specification
Model	Yunzhuo G20 (Cloud卓 G20)
Weight	1.2kg
Physical Dimensions	277mm × 138mm × 96mm
Screen Size	7 inches
Screen Resolution	1920 × 1080
Processor	Qualcomm 6nm Processor
Running Memory	8GB
Storage Space	128GB
Operating Frequency Bands	2.4GHz & 5.8GHz
Battery Life	6~8h
Operating Temperature	-10°C ~ 55°C
Storage Temperature	-20°C ~ 50°C
Charging Time	3~4h
Battery Capacity	20000mAh
Hardware Interfaces	USB / SIM Card Slot / Type-C

4. LiDAR

Item	Specification
Model	Robosense Airy
Number of Lines	96
Horizontal Field of View	0°~360°
Vertical Field of View	0°~90°
Laser Safety Class	Class 1 (Eye-safe)
Ranging Capability	60m (30m @ 10% NIST)
Point Output	856,320 pts/s (Single Return); 1,712,640 pts/s (Dual Return)

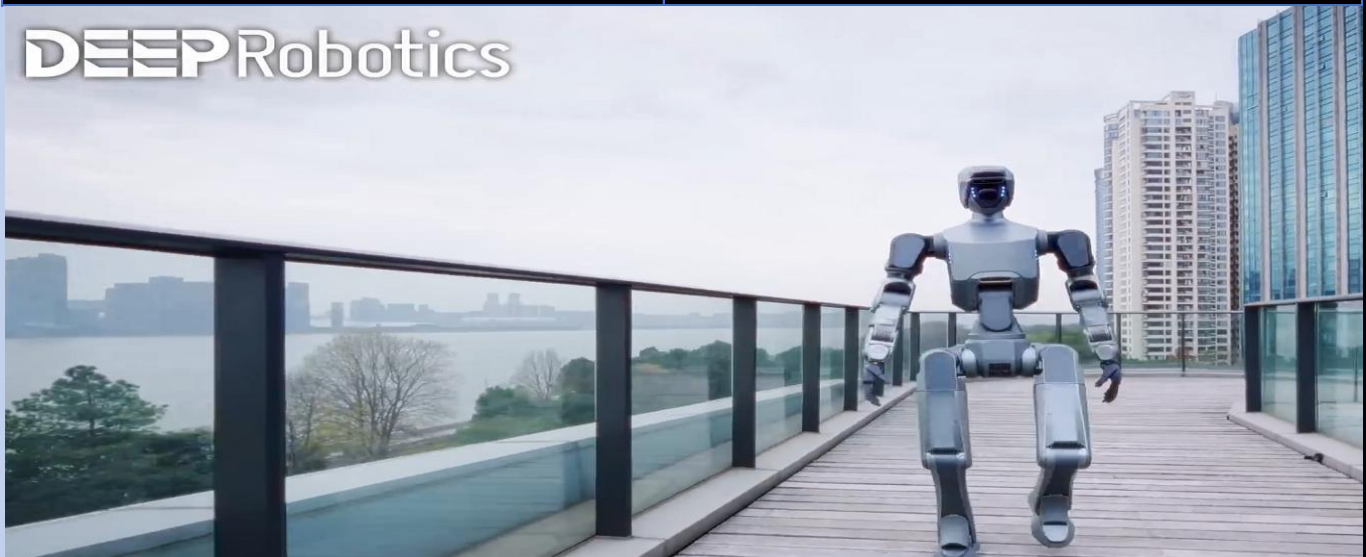
5. Depth Camera

Item	Specification
Model	Intel® RealSense™ Depth Camera D435f
Operating Range	~0.3m - 3m
Depth Resolution and FPS	1280×720 30fps
Field of View (FOV)	Depth FOV (H×V): 87° × 58° RGB FOV (H×V): 69° × 42°
Depth Output Resolution	Up to 1280 × 720
Depth Output Frame Rate	Up to 90 fps
RGB Output Resolution	Up to 1920 × 1080
RGB Output Frame Rate	Up to 30 fps

6. WiFi Module

Item	Specification
Wi-Fi Standard	IEEE 802.11a/b/g/n/ac
Operating Frequency Bands	2.4GHz & 5GHz

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Desarrollo secundario

Entorno de host integrado:

Host de movimiento (3588): Ubuntu 20, ROS2 foxy

Host de IA/Percepción (AGX): Ubuntu 22, ROS2

Interfaces: ROS2, protocolo de comunicación TCP/XML, SDK (C++ y Python)

Principales ventajas:

Protección integral (principal ventaja): Clasificación IP66, temperatura de funcionamiento de -20 °C a 55 °C, apto para uso en exteriores en cualquier condición climática.

Alta movilidad: Velocidad de marcha de 1,5 m/s, velocidad máxima de 4 m/s, capacidad para subir escaleras de 25 cm y superar pendientes de 20°.

Hardware avanzado: Procesador Jetson AGX con hasta 275 TOPS de potencia de cálculo de IA y fusión multisensor (LiDAR + cámara de profundidad + cámara gran angular).

Diseño modular: Desmontaje rápido de los módulos de brazo pequeño, brazo completo y pierna completa; los módulos de brazo y pierna izquierdo/derecho son intercambiables.

Escenarios de aplicación: Escenarios factibles actuales: Espectáculos, recepciones de exposiciones, educación e investigación.

