X-HUMANOID UBTECH

Walker Tienkung

Full-Size Humanoid Robot for Research & Education

Empower the technical youth to pursue innovation in humanoid robot and create the original technology breakthroughs, fostering next-generation talent in embodied intelligence.

This image is for reference only, the actual unit shall prevail

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Product Positioning

A full-size, high-performance, research-grade humanoid robot for universities, research institutions, and developers. Open-source architecture supports scientific research and scenario-based innovation, driving technological advancement and practical applications.

Core Advantages

Full-Size & High-Performance Humanoid Robot

- Anthropomorphic Design: 172cm height, 42 DOF configuration, supports 10km/h sprinting and complex movements
- Lightweight Structure: Proprietary integrated joint modules, 300Nm peak torque, aerospace-grade aluminum + titanium alloy construction
- Dual-Battery Thermal Management: 30Ah+3Ah hot-swappable batteries, full-body air duct cooling, 3hrs continuous motion/6hrs Standing endurance

Modular Design with High scalability

- Body Expansion: 7-DOF collaborative arms, 6-DOF dexterous hands, 3-DOF head module
- Perception & Computing: Depth cameras, AI voice kit, six-axis force sensors, 550 TOPS Orin computing board
- Application Scenarios: University Research, Commercial services, complex terrain navigation, industrial logistics, healthcare, home assistance, power inspection

Open-Source Ecosystem

- Open Interfaces: Motor control, sensor data, motion control APIs with ROS2 compatibility
- Development Suite: High-precision URDF models, open training framework, access to “KaiWu" platform (robot trajectory data, meta-skills, open OS)
- Comprehensive Resources: Mature development guides + sample code for embodied intelligence control and precision motion research

University-Industry-Research Collaboration

- UBTECH Humanoid Research Fund: A cross-industry initiative propelling robotics innovation through standardization, grants, and global competitions, backing academic R&D in humanoid technologies.

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Product Parameters

Product Dimensions	Height: 172cm, Net Weight: ≈73kg
Structure Materials	high-strength aluminum alloy + titanium alloy + engineering plastic
Power System	Battery Capacity: 30Ah + 3Ah (dual-cell configuration)
Total DOF	42
Leg DOF	7 (Shoulder3, Elbow1, Wrist*3) ×2
Arm DOF	6 (Hip3, Knee1, Ankle*2) ×2
Head/Neck DOF	3-DOF Head Module (Standard)
Waist DOF	1
Dexterous Hand	6-DOF Dexterous Hand ×2 (Standard)
Peak Torque	300Nm
Motor Control Modes	Hybrid force-position/velocity/position
Motion Control	Traditional + reinforcement learning hybrid architecture
Runtime	6h (Standby), 3h (Continuous)
Depth Camera	Depth Camera ×3
AI Compute Board	NVIDIA Jetson AGX Orin ×2 (550 TOPS)
Middleware	ROS2
Internal Comms	CAN/EtherCAT
External Comms	WiFi, Bluetooth 5.2, Ethernet

Note: Specifications subject to change. Final interpretation reserved by manufacturer.

Standard Configurations

- Humanoid robot body ×1
- 200W power adapter ×1
- Wireless controller ×1
- User manual ×1
- Development support: SDK + open-source framework

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Optional Configurations

1. Basic Accessories Kit

Aviation Case	Safety Rope	Display Stand

Basic Accessories Kit Applications:

Suitable for equipment storage, transportation, and daily placement

2. Voice & Vision Interaction Expansion Kit

Depth Camera ×3	AI Voice Kit
275TOPS Orin Computing Board	

Voice & Vision Interaction Expansion Kit Applications:

Suitable for voice interaction, visual autonomous navigation, language/vision large model integration

3. Embodied Intelligence Manipulation Expansion Kit

7-DOF Collaborative Arm ×2		3-DOF Head Module
6-DOF Dexterous Hand ×2	6-Axis Force Sensor ×2	275TOPS Orin Computing Board

Embodied Intelligence Manipulation Expansion Kit Applications:

Suitable for hand-eye coordination, dexterous manipulation, VLA (Vision-Language-Action), and other embodied manipulation research scenarios

Applicable Scenarios

Research Experiments	Motion control algorithm research, multimodal perception research, language/vision large model interaction research, reinforcement learning.
Educational Practices	Robot engineering practice, AI large model application practice
Innovation Scenario	Explorations in commercial, terrain, logistics, medical, home service, power inspection scenarios, etc.