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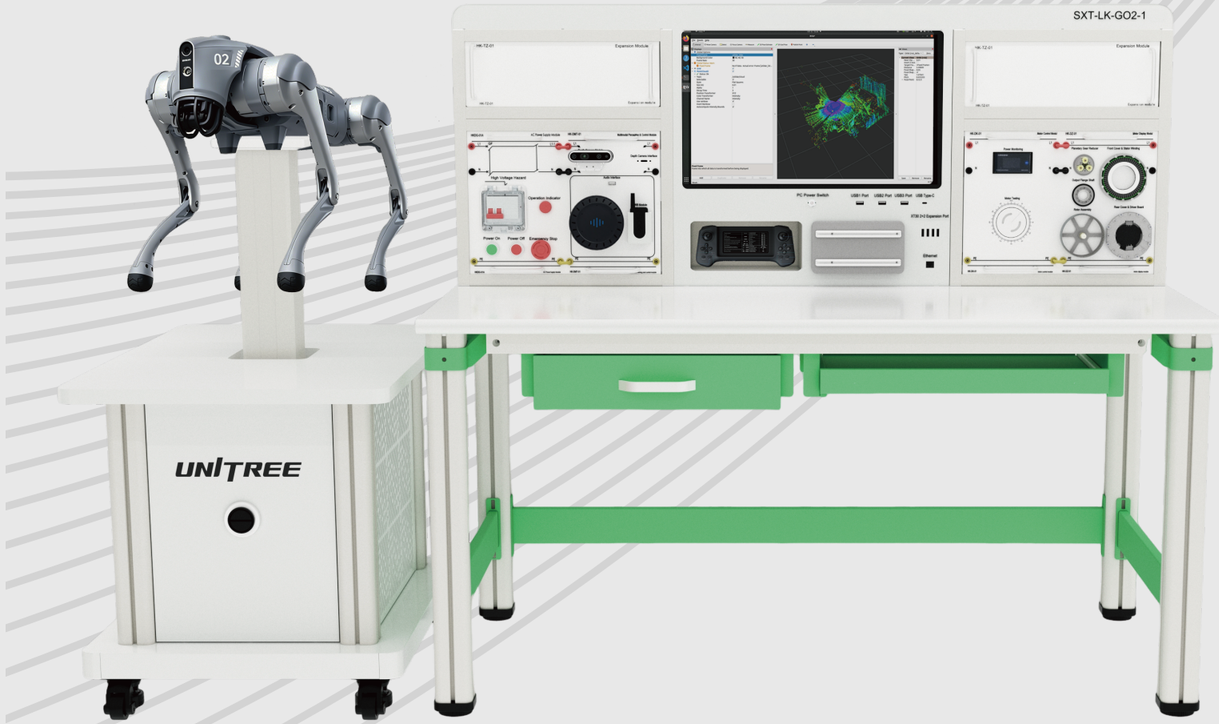
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and comply with local laws and regulations.

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.

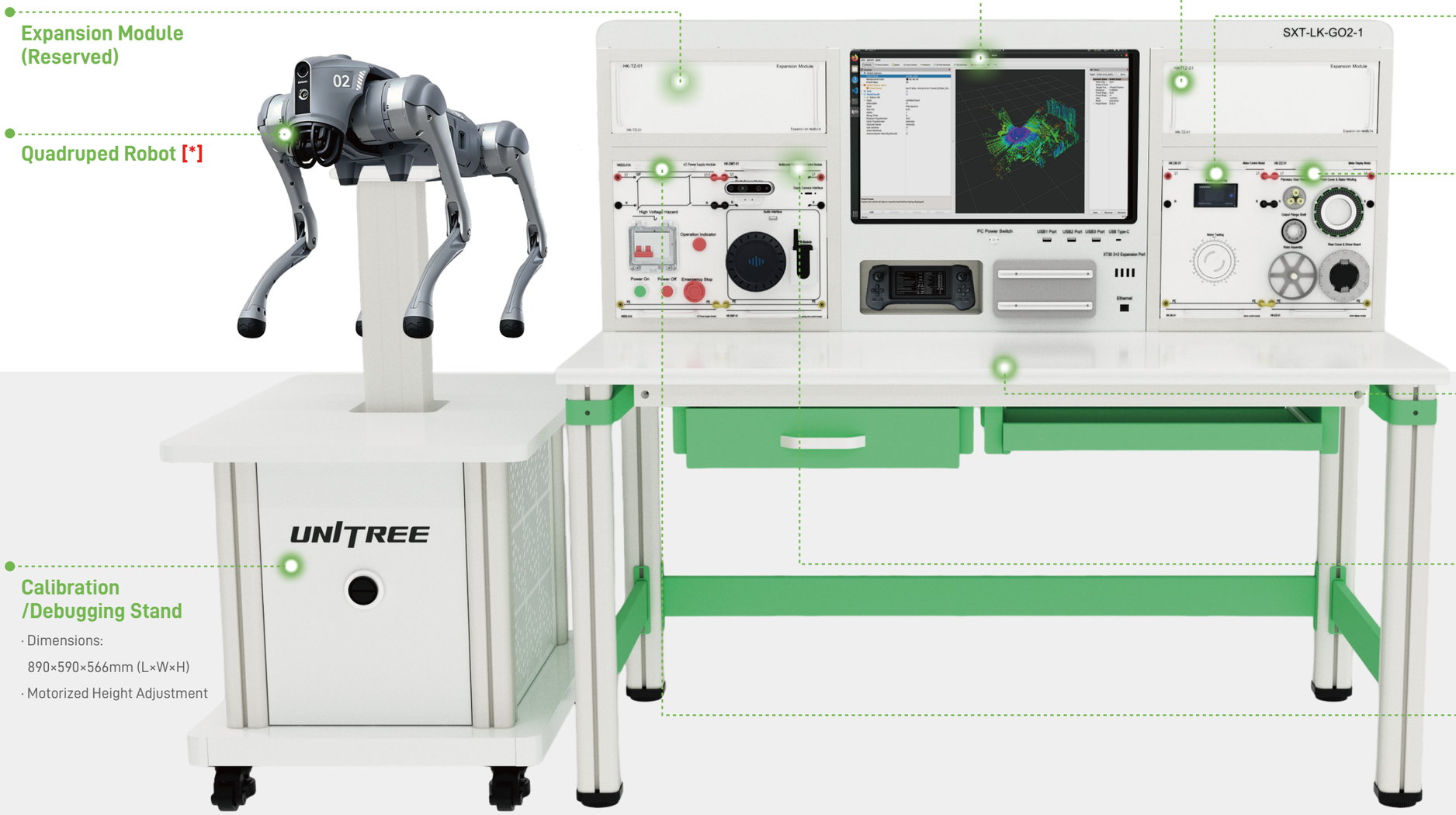
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Quadruped Robot Training Platform

Equipment
Composition

Quadruped Robot Training Platform is designed for education, scientific research, and innovative practice. Its hardware integrates advanced motion control systems, comprehensive perception modules, and open software interfaces, providing a systematic and scalable experimental foundation for automation, computer science, artificial intelligence, and related disciplines.



All-in-One Display Module
- Configuration: 21.5" Display/DDR4 8GB RAM /256GB SSD/Intel i5-1140 CPU
- PC Power Switch ×1
- USB Expansion (USB 2.0 ×3, USB Type-C 3.0 ×1)
- XT30 2+2 Expansion Port
- Ethernet ×1
- Quadruped Robot Remote Controller [*]
- Edge Computing Unit [*]

Expansion Module (Reserved)

Motor Control Module
- Voltage/Current Monitoring Equipment ×1
- Motor Control Testing Equipment ×1

Motor Demonstration Module
- Planetary Gear Reducer ×1
- Front Cover & Stator Winding ×1
- Output Flange Shaft ×1
- Rotor Assembly ×1
- Rear Cover & Driver PCB ×1

Practical Training Platform
- Dimensions: 1450×800×1300mm (L×W×H)
- Structure: Aluminum extrusion with steel-wood composite; Worktop: Fire-resistant, waterproof, wear-resistant high-density board
- Keyboard Tray ×1, Drawer ×1

Multimodal Perception & Control Module
- Depth Camera Module ×1 [*]
- Microphone-Speaker Array Module ×1
- UWB Module ×1 [*]

AC Power Supply Module
- 2P Residual Current Device (RCD) ×1
- Operation Indicator ×1
- Power On Button ×1
- Power Off Button ×1
- EMERGENCY STOP Button ×1

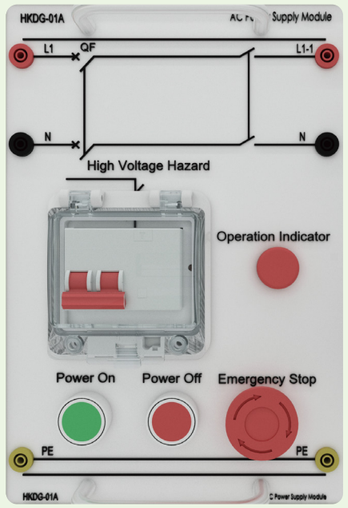
Expansion Module (Reserved)

Quadruped Robot [*]

Calibration /Debugging Stand
- Dimensions: 890×590×566mm (L×W×H)
- Motorized Height Adjustment

[*] Requires modules are bundled with Go2 Edu Standard Version or higher (not included in this product)

Module composition and supporting knowledge points



AC Power Supply Module

Equipment Name

- 2P Residual Current Device (RCD)
- Operation Indicator
- Power On Button
- Power Off Button
- EMERGENCY STOP Button



Multimodal Perception & Control Module

Equipment Name

- Depth Camera Module [*]
- Microphone-Speaker Array Module
- UWB Module [*]

Knowledge Points

- Camera Imaging and Calibration
- Image Feature Extraction and Recognition
- 3D Measurement with Depth Camera
- Depth Camera Applications in Visual SLAM
- Speech Recognition
- Natural Language Understanding (NLU)
- Speech Synthesis (TTS)
- Human-Machine Interaction (HMI) System Design
- UWB Signal Modulation and Implementation
- UWB Positioning Algorithms
- UWB Indoor Positioning System Architecture
- Robot Wireless Navigation

[*] Requires modules are bundled with Go2 Edu Standard Version or higher (not included in this product)



All-in-One Display Module

Equipment Name

- Ubuntu All-in-One PC
- Quadruped Robot Remote Controller [*]
- Edge Computing Unit [*]



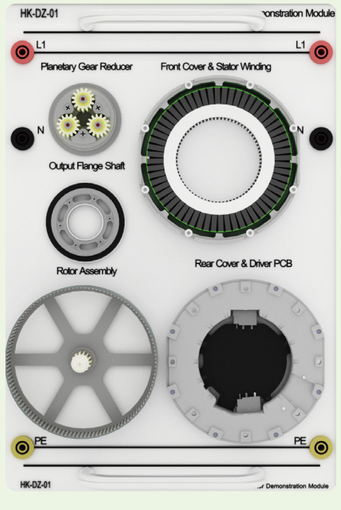
Motor Control Module

Equipment Name

- Voltage/Current Monitoring Equipment
- Motor Control Testing Equipment

Knowledge Points

- Motor Control Principles
- Motor Feedback Data Acquisition and Parameter Identification
- Vector Control and Rotor Field Orientation (FOC)



Motor Demonstration Module

Equipment Name

- Planetary Gear Reducer
- Front Cover & Stator Winding
- Output Flange Shaft
- Rotor Assembly
- Rear Cover & Driver PCB

Knowledge Points

- Motor Drive and Control
- Motor Manufacturing Processes
- Motor Structure and Principles (Based on Unitree Motors)

Supporting Curriculum System

01.

Chassis Motor Category

(Quadruped Robot Structure Cognition Experiment,
Motor Basic Control Experiment)

For courses in motor control, embedded systems, and robot underlying motion principles, helping students master the core driving mechanisms of quadruped robots.



Experiment Example 01: Quadruped Robot Structure Cognition Experiment

Course Objective: Master basic control principles of direct-drive motors and understand key parameters including PWM, drive current, and commutation logic.

Core Content:

- Basic motor principles and torque generation mechanisms
- C++ control program development and debugging
- Linux peripheral access fundamentals
- Motor speed, direction, and torque regulation experiments

Experiment Example 02: Motor Basic Control Experiment

Course Objective: Learn the implementation of closed-loop control systems (PID) to achieve precise angular positioning.

Core Content:

- Encoder angle reading
- Network command transmission and real-time feedback
- Closed-loop angle control algorithm design (PID)
- C++ programming for motor angle and trajectory control

02.

Motion Control Category

(Single-Leg Motion Control Experiment,
Multi-Leg Motion Control Experiment)
(Quadruped Robot Motion Control Experiment)

Centering on the core objectives of quadruped robots "walking stably, fast, and accurately," constructing full-chain teaching of motion control.



Experiment Example 01: Single-Leg Motion Control Experiment

Course Objective: Implement single-leg rhythmic control and master fundamentals of kinematics and joint trajectory planning.

Core Content:

- Unitree SDK2 advanced control interface invocation
- C++ trajectory planning and joint control
- ROS2 basic publish/subscribe mechanisms
- Single-leg motion reproduction experiments

Experiment Example 02: Multi-Leg Motion Control Experiment

Course Objective: Implement multi-leg rhythmic control and learn stable gait generation and control strategies for real terrain.

Core Content:

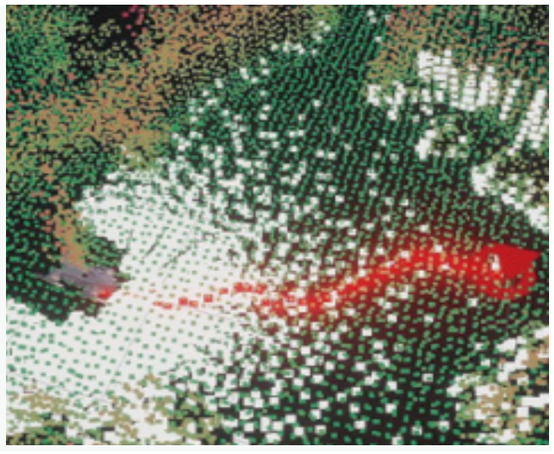
- Unitree SDK2 ground contact control interface
- C++ kinematics/inverse kinematics fundamentals
- ROS2 control framework and callback mechanisms
- Multi-leg motion reproduction experiments

03.

Perception & Sensing Category

(Visual Signal Acquisition Experiment, IMU Data Acquisition Experiment) (LiDAR Data Acquisition Experiment, Audio Signal Acquisition/Recognition/Playback Experiment) (UWB Control Comprehensive Experiment, Voice Module Comprehensive Experiment, Visual Recognition Comprehensive Experiment)

Focusing on cultivating students' in-depth understanding of multimodal sensors and efficient data processing capabilities, laying a solid foundation for subsequent learning in SLAM, navigation, and control.



Experiment Example 01: Visual/LiDAR Data Acquisition Experiment

Course Objective: Master acquisition methods for robot visual data and LiDAR data, processing fundamentals, and perception interface calling methods.

Core Content:

- OpenCV basic image processing operations
- Visual ROI extraction and edge detection
- Unitree SDK2 LiDAR interface invocation
- LiDAR point cloud processing fundamentals

Experiment Example 02: Audio Signal Acquisition, Recognition and Playback Experiment

Course Objective: Use audio acquisition equipment for signal analysis and experience application scenarios of multimodal perception.

Core Content:

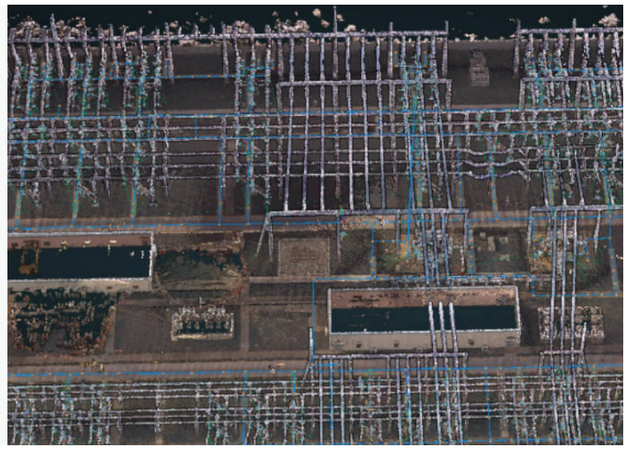
- Microphone signal acquisition
- Basic sound recognition and classification
- Secondary development interface tutorial
- Introduction to voice command interaction

04.

Project-Based Practical Training Category

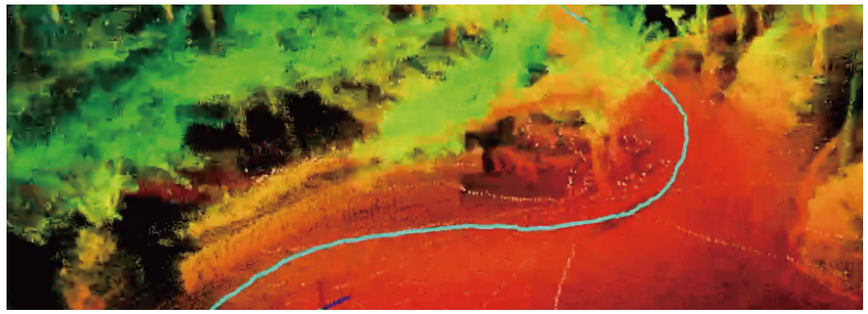
(Quadruped Multimodal Perception Autonomous Inspection System Experiment)
(Quadruped Robot O\&M Experiment)

Through real-world industrial application projects, students engage in practical training to apply their knowledge and master relevant skills.



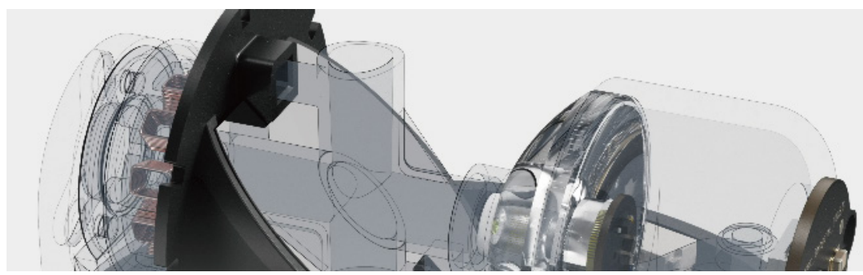
Experiment Example 01: Quadruped Multimodal Perception Autonomous Inspection System Experiment

Course Objective: Through project-based practical training, master knowledge and skills related to autonomous inspection.

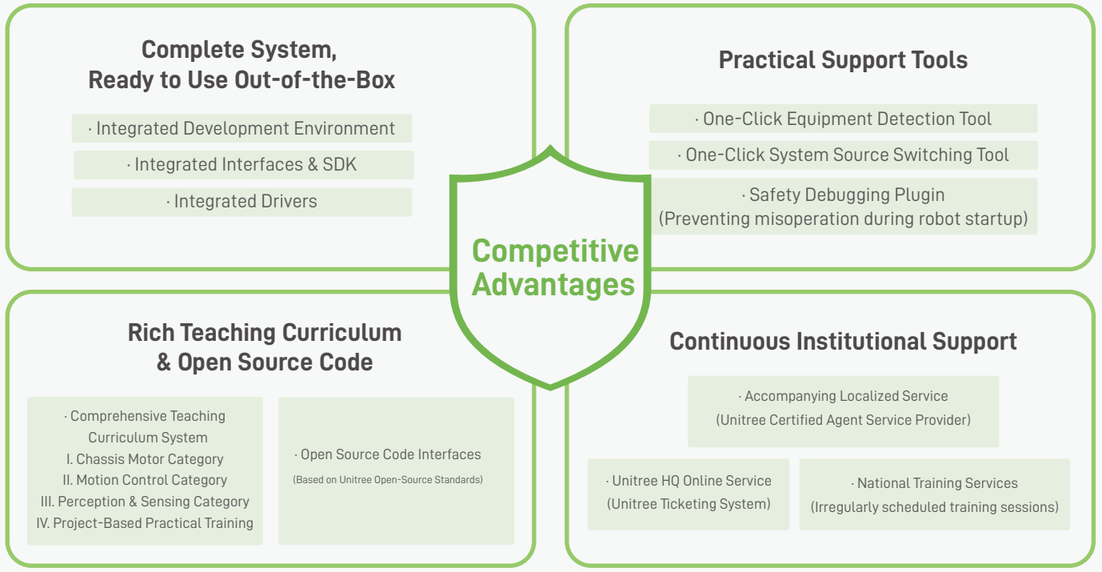


Experiment Example 02: Quadruped Robot O\&M (Operation & Maintenance) Experiment

Course Objective: Through project-based practical training, master knowledge and skills related to robot operation and maintenance.



Providing institutions with a premium service support system through project-based practical training and scientific research experiments.



Supporting Manuals & Installation Services

User Manual

- Training platform startup
- Operation
- Precautions
- Shutdown & Reset
- Quadruped Robot Camera Installation
- Edge Computing Unit installation & removal

Acceptance Manual

Module acceptance operation guides for beginners, easy to understand and master

Installation Service

Worry-free installation by Unitree Technology certified installation engineers

Specifications

Name	Model	Category	Sub-item	Functional Description
Quadruped Robot Training Platform	SXT-LK-GO2-1	Training Platform	Overall Configuration	Dimensions: 1450×800×1300mm (L×W×H)
				Aluminum extrusion with steel-wood composite; Worktop: Fire-resistant, waterproof, wear-resistant high-density board
				Keyboard Tray ×1, Drawer ×1
			Side Interfaces of Test Platform	XT60 Power Port ×1
				Ethernet ×1
				Power Input Port ×1
			AC Power Supply Module	2P Residual Current Device (RCD) ×1
				Operation Indicator ×1
				Power On Button ×1
				Power Off Button ×1
				EMERGENCY STOP Button ×1
			Electrical Configuration	Max. Power 1800W
			Multimodal Perception & Control Module	Depth Camera Interface×1
				Audio Interface ×1
				Microphone-Speaker Array Module×1
			All-in-One Display Module	Configuration: 21.5" Display/DDR4 8GB RAM /256GB SSD/Intel i5-1140 CPU
				PC Power Switch ×1
				USB Expansion (USB 2.0 ×3, USB Type-C 3.0 ×1)
				XT30 2+2 Expansion Port
				Ethernet ×1
			Motor Control Module	Voltage/Current Monitoring Equipment ×1
				Motor Control Testing Equipment ×1
			Motor Demonstration Module	Planetary Gear Reducer ×1
				Front Cover & Stator Winding ×1
				Output Flange Shaft ×1
				Rotor Assembly ×1
				Rear Cover & Driver PCB ×1
			Expansion Module	Expansion Module*2
		Calibration /Debugging Stand	Overall Configuration	Dimensions: 890×590×566mm (L×W×H)
				Motorized Height Adjustment: Yes
				Lifting Stroke: 400mm
				Lifting Speed: 25mm/s
				Lifting Accuracy: ±2.5mm
				One-Click Lifting Support: Yes
				Load Capacity: 30 kg