Product Specifications

Master Hand				
Items	Parameters			
Weight	1 Kg			
DOF	6			
Max Working Radius	437 mm			
Motor	High-performance servo motor			
Buttons	Unlock button, record button			
Base Dimensions	149 × 130 × 58 mm			
Power Input	100V~240V AC, 50/60 Hz			
Rated Voltage	DC 12V 2A			
Communication Interface	USB			
Material(s)	Metal components + 3D printing (plastic)			
Operating Environment	Temperature: 0°C - 40°C Humidity: 25%-85%, non-condensing			

Base

Nova 2 Slave-Hand Gripper				
Items	Parameters			
Weight	0.6 Kg (including camera and bracket)			
Maximum Opening Distance	95 mm			
Clamping Force	0-15N			
Material(s)	3D printing (plastic)			
Dimensions	160 × 202 × 75 mm			
Operating Environment	Temperature: 0°C - 40°C Humidity: 25%-85%, non-condensing			

Nova2					
Items	Parameters				
Weight	11 Kg				
DOF	6				
Payload	2 Kg				
Repeatability	0.05 mm				
Max Working Radius	625 mm				
Operating Environment	Temperature: 0°C - 40°C Humidity: 25%-85%, non-condensing				
Rated Power	Max 250W				

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Weight	85 Kg
Dimensions	Folded dimensions (without camera bracket): 1630 × 1060 × 380 mm Unfolded dimensions (with camera bracket installed): 1530 × 960 × 1300 mm
Power Input	100V~240V AC, 50/60 Hz
Rated Power	150W
Power Supply	DC 24V*6, max 4A per port, total output of 4A
Communication Interface	Ethernet
Communication Protocol	TCP/IP
Indicators	Tricolor indicator light(s)×1
Emergency Stop Switches	Number of emergency stop switches×2
Material(s)	Aluminum alloy + metal

Camera				
Items	Parameters			
Model	Depth-sensing camera			
Dimensions	36.5 × 19.4 × 10.5 mm (module)			
Depth	FOV: 87° × 58° Depth output resolution: up to 1280 × 720			
Communication Interface	USB 2、USB 3.1			
Operating Environment	0 to 35 °C (ambient) 0 to 55 °C (casing)			

	Packaging List for Dobot X-Trainer					
Accessories	Items	Quantity	Specifications	Notes		
Master Hand	Teleoperated Master Hand	2	6 high DOF & Precision Master Hands with Grippers, including unlocking and record buttons	Standard		
Slave Hand	Slave Hand Nova 2 Robot		High-precision collaborative robot arm*2, ± 0.05 mm accuracy, 2 Kg payload , 625 mm arm span	Standard		
Gripper	Slave-Hand Gripper	2	 Max opening & closing distance is 95 mm; Packed and shipped together with the Master Hands 	Standard		
Camera End of Master Hands & Camera		3	1. Depth-sensing camera 2. Packed and shipped together with the Master Hands	Standard		
Base	Fixed Base	1	1. Fixed base for robotic arm 2. With Camera Bracket	Standard		
Computer	Training Platform	1	Recommended Specifications: 1. RTX4090-24G GPU; 2. Intel i9-14900KF, 32GB,2TB;	Not Standard		

* Training time is affected by specific scenarios, usage models and hardware configurations. Refer to the specific situation for assistance.

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Dobot X-Trainer AI Robot Operation Platform

First Dual-Armed, Teleoperated Robot for the Education & Research Industry

Dobot X-Trainer AI Training Robot

Dobot X-Trainer is an innovative dual-arm teleoperation AI training platform that combines imitation learning neural networks, industrial-grade robotic arms, and high-performance haptic interfaces. Leveraging the human demonstration learning approach through teleoperation, it provides unprecedented flexibility and precision for embodied intelligence training. The Dobot X-Trainer also significantly reduces the duration of scenario-based training by 70% to just 2 hours*, while efficiently empowering researchers and educators to conduct research, practical tasks, and perform AI data collection, as well as AGI simulation studies.

Applications

AI Large-Scale Model Data Collection & Training

The X-Trainer platform is capable of collecting diverse and contextualized data, such as images, videos, and positional information, to train embodied intelligence AI models. This enables the platform to meet the conventional data collection and training requirements of both academia and industry.



AGI (Artificial General Intelligence) Scene Simulation & Research

Researchers can utilize the X-Trainer platform to simulate various life and work scenarios, such as simulating robots assisting with cooking at home or performing tasks like assembly and handling in industrial settings. This helps to explore the usability of embodied intelligence devices in everyday life and work applications.

Practical Projects & Competitions

University students can take advantage of the X-Trainer platform for various robotics and Al-related practical projects and competitions, while using it for creative experimentation or developing Al applications. The end result is enhanced practical skills and innovation mindset.





Functions & Features

Rapid Training and Interference Resistance

Imitation learning data training is significantly shortened by 70%, and routine scenario training (such as dish-washing or folding clothes) can be completed in just 2 hours. During autonomous execution of scenario tasks, real-time disturbances can be quickly corrected. For example, the robot can recognize and remove stains that occur during the dish-washing process, resulting in a significant improvement in the robot's Al capabilities.



Industrial-Grade Performance

With Dobot Nova 2 Six-Axis Cobots, the X-Trainer platform achieves a high repeatability accuracy rate of up to 0.05mm. With a 25Hz end-to-end highperformance motion interface, the response speed is improved by 150% compared to similar products, and it is more stable.



Easy-to-Use Buttons

The master hand controller is equipped with unlock and record buttons. The unlock button allows for quick locking and unlocking of the master hand's posture, significantly reducing fatigue on the operator's hands. The record button enables convenient control of recording start or stop.



Convenient Training to Explore More

By adopting a remote control input method and providing a data training platform with open API interfaces, the X-Trainer platform supports exporting data in dedicated formats for direct use by embodied intelligence neural network models. It also allows for the deployment of multimodal large-scale models for data training and research to facilitate efficient execution of various scientific research projects.

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Smooth Operation, Control as Needed

The lightweight design ensures that the load on the user's hand during operation is less than 400g, making it more comfortable and convenient to use. With high-performance servo motors, it achieves higher motion capture accuracy, resulting in a more seamless remote control experience. The master hand controller is designed ergonomically, with a configuration that closely resembles the human hand.



Lightweight Base, Quick Deployment

Utilizing a lightweight design, the weight is reduced by 70%. Equipped with 4 convenient handles, it provides higher flexibility for transportation and deployment. Featuring 6 mounting feet, it enhances the stability of deploying the device on various platforms.

