

OmniHand 3 Ultra-T

Flagship tendon-driven dexterous hand



22 active degrees of freedom plus a 3-DoF wrist, in a 500-gram, 1:1 human-scale form factor. Engineered for dexterity, range of motion, and tactile sensitivity that close-contact manipulation demands.

Designed for industrial deployment, contact-rich assembly, and dexterous manipulation tasks that require human-like reach and feel.



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Features and Benefits

Human-Scale Dexterity

1:1 human-scale design with 25 DoF and a cross-axis wrist, enabling high flexibility and an extended range of motion.

Agile & Lightweight

Fast actuation (0.3s) combined with a lightweight 500g structure for dynamic and efficient movement.

Powerful & Precise Control

1:10 weight-to-payload ratio with sub-Newton force control, supporting both high-strength tasks and delicate manipulation.

Vision-Tactile Perception

Full-hand distributed 3D tactile sensing (0.01N resolution) integrated with an in-palm camera for fine-grained interaction.

Industrial-Grade Reliability

Million-cycle durability, validated through rigorous testing, with a quick-replace tendon system for maintainability.

Specifications

Hand Weight

500g

Full Assembly

~1.7kg

with forearm drive

Degrees of Freedom

22 + 3

Communication Interface

CANFD/ Ethercat

Control Modes

Force · Position · Velocity · Hybrid

Cycle Time

0.3s

Open & Compatible

ROS



NVIDIA
OMNIVERSE

MuJoCo



*SDK in Python and C++