



MANUS™ METAGLOVES PRO HAPTIC

Precision Hand Tracking with Haptic Feedback

MANUS Metagloves Pro Haptic integrate electromagnetic field (EMF) tracking with haptic feedback to deliver millimeter-level hand motion capture and real-time object interaction signals. With 25 degrees of freedom, the system generates anatomically complete datasets of the human hand, capturing every joint and micro-movement for high-fidelity robotic control, embodied AI training, and VR/XR interaction.

CORE TECHNOLOGY

EMF tracking provides millimeter-level accuracy with no occlusion, no drift, and persistent calibration. Integrated Linear Resonant Actuators provide real-time vibrotactile feedback during object interaction, enhancing spatial awareness and accelerating learning in teleoperation and virtual environments. Calibration completes in seconds, with user-specific profiles stored locally on the computer that persist across battery changes and wear sessions.

MODULAR DESIGN

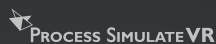
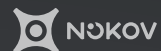
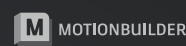
The detachable Haptic Top Module contains all electronics and connectivity, enabling cost-efficient multi-user deployment. Each operator requires only their own sized Haptic Sensor Glove. Swappable batteries and optional USB-C power support continuous 24/7 operation. The system integrates directly into existing pipelines through real-time streaming, industry-standard file export, or full SDK customization.

APPLICATIONS

Designed for teleoperation systems requiring tactile feedback, embodied AI training workflows demanding rich interaction datasets, and XR/VR environments where haptic response improves task performance and immersion. Suitable for robotics research, motion science, and AI development requiring anatomically accurate human hand data.



LIVE DATA STREAM INTEGRATIONS



Supports haptic feedback

HARDWARE OVERVIEW

Signal latency	30ms (wired), 50ms (wireless)
Finger sensor type	5 EMF sensors with 6 DOF tracking
Sensor sample rate	120Hz
Haptic module type	LRA vibration motor
Battery duration	up to 3 hours (swappable)
Charging time	2 hours USB-C
Weight	178 grams
Wired communication	USB-C
Wireless communication	Bluetooth Low Energy 5
Wireless range	Up to 15 meters
Textile information	Size M, L

WHAT'S IN THE BOX?

1x	Pair of Metaglove Pro Haptic Sensor Gloves
1x	Pair of Metaglove Pro Haptic Top Modules
1x	Wireless Dongle
4x	Metagloves Pro Haptic Battery
2x	USB-C Cables
1x	Quick Start Guide
1x	Travel Case

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Fingertip Modules

Fingertip sensor technology	5 EMF sensors with 6 DOF tracking
Fingertip sensor data	3 axis positional and 3 axis rotational
Fingertip sensor sampling rate	120Hz
Fingertip sensor motion-to-data latency (wired)	30ms
Fingertip sensor motion-to-data latency (wireless)	50ms

Fingertip Haptics

Finger haptic technology	5 LRA vibration motors
Finger haptic intensity control	256 dynamic levels (per finger)
Finger haptic control rate	120Hz
Finger haptic feedback type	1-dimensional vibro-tactile feedback
Finger haptic feedback latency (wired)	4ms
Finger haptic feedback latency (wireless)	16ms

Top Module

Sensor connection	Interchangeable sensor connection
Status indication	Battery LED, Status LED
Battery LED	Charging, Fully Charged
Status LED	Connected Wired, Connected Wireless, Starting Up, Connecting, Pairing, Alert, Low Battery, Firmware Update

Connectivity

Connection options	Wired, Wireless
Wired communication	USB 2.0 Type-C
Wireless communication	MANUS Wireless Dongle (USB 2.0 Type-A)
Wireless dongle communication protocol	Bluetooth 5.0
Wireless dongle range	Up to 15 meters (49 feet) depending on environment
Wireless long range accessories	MANUS Bodypack Lite

Power

Battery type	Interchangeable
Battery model	Metagloves Pro Battery
Battery locking mechanism	Snap Fit
Battery life	Up to 3 hours of continuous use
Charging time	~2 hours

Charging options	Charge installed battery via USB Type-C (USB 2.0 with 5V/0.5A)
Charging accessories	MANUS Charging Station

Weight

Glove with electronics (including battery) for a medium hand	178 grams (6.28 ounces)
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Dimensions

Hand module height	60.7mm (2.39 inches)
Hand module width	78.2mm (3.08 inches)
Hand module depth	34.3mm (1.35 inches)
Fingertip sensor height	20.3mm (0.80 inch)
Fingertip sensor width	14.6mm (0.57 inch)
Fingertip sensor depth	9.6mm (0.38 inch)
Haptic module height	12.5mm (0.49 inch)
Haptic module width	12.5mm (0.49 inch)
Haptic module depth	8.1mm (0.32 inch)
Wireless dongle height	27.8mm (1.09 inches)
Wireless dongle width	70.3mm (2.77 inches)
Wireless dongle depth	8.5mm (0.33 inch)
Wireless dongle cable length	43cm (16.93 inches)

Gloves

Glove type	Full finger glove
Fingertip sensor placement	Integrated in glove textile
Fingertip sensor attachment	Removable from glove textile
Fingertip sensor cables	Fully integrated, entirely enclosed
Finger haptic actuator placement	Integrated in glove textile
Finger haptic actuator attachment	Removable from glove textile
Finger haptic actuator cables	Fully integrated, entirely enclosed
Hand module attachment	Attached with integrated latch
Hand module attachment steps	1
Glove size options	M, L
Glove textile material	72% polyester, 28% spandex
Glove textile washability	Yes, with electronics removed