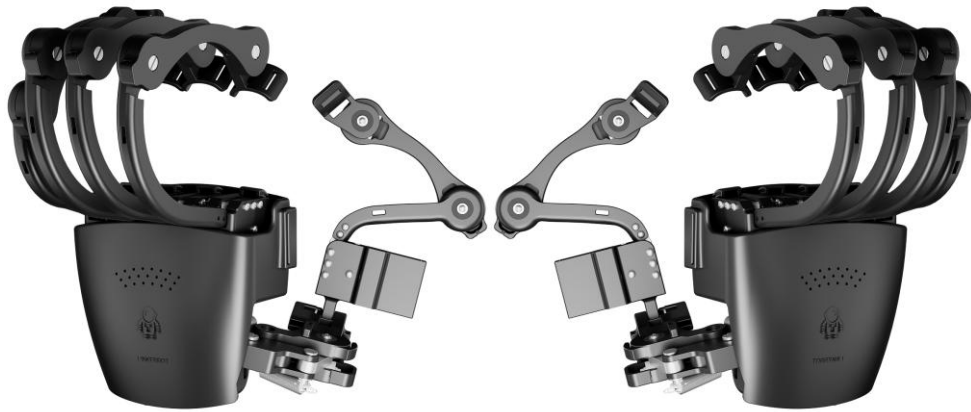




Linker FFG Product Manual



Linkerbot Beijing Technology co., Ltd.

Version Revision History

Version No.	Revision Date	Revision Notes
V1.1	2026.04.24	Removed invalid links
V1.0	2026.02.11	Initial version

Table of Contents

1. Product Overview	1
1.1 Product Introduction	1
1.2 Product Features.....	1
1.3 Product Display.....	2
1.4 Product Dimension Drawing.....	2
1.5 Degrees of Freedom & Range of Motion.....	3
2. Product Specifications.....	4
3. Instructions for Use.....	4
3.1 Packaging List.....	4
3.2 Button & Interface Introduction.....	5
3.3 Usage Methods.....	5
3.4 Assembly Instructions with Remote Control Arm	6
3.5 Wearing Instructions	6
3.6 Gesture Calibration Instructions	8
4. After-Sales & Service Terms	9

1. Product Overview

1.1 Product Introduction

Linker FFG (Linker Force Feedback Glove) is a professional force feedback interaction device that integrates high-precision hand motion capture technology and grip force feedback functionality.

Centered on the design philosophy of precisely restoring hand movements and authentically delivering haptic feedback, Linker FFG uses an integrated technical solution to simultaneously achieve high-precision tracking of hand joint postures and force simulation during gripping.

It delivers an immersive, high-fidelity hand human-computer interaction experience for professional scenarios including virtual reality interaction, remote control of dexterous hands, medical simulation training, and industrial remote operation & maintenance.

1.2 Product Features

➤ High-Precision Motion Capture

Linker FFG supports 21 degrees of freedom (DoF) full-joint capture for the hand, accurately tracking subtle movements (flexion, extension, abduction, etc.) of all finger joints. It covers the full motion range of the thumb, index finger, middle finger, ring finger, and little finger, ensuring authentic and delicate movement reproduction.

➤ Real-Time Dynamic Mapping

Linker FFG adopts a communication architecture with a wired 100Hz / wireless 30Hz update rate, paired with low-latency transmission. Both data transmission and feedback response delays are controlled at the millisecond level, enabling real-time synchronization of commands and feedback with no noticeable lag for smooth high-intensity interaction.

➤ Flexible Data Transmission

Linker FFG supports dual-mode communication: Wired serial port connection: stable, interference-free, ideal for high-demand industrial scenarios; Wireless connection: cable-free, improves mobility and flexibility; Users can switch modes

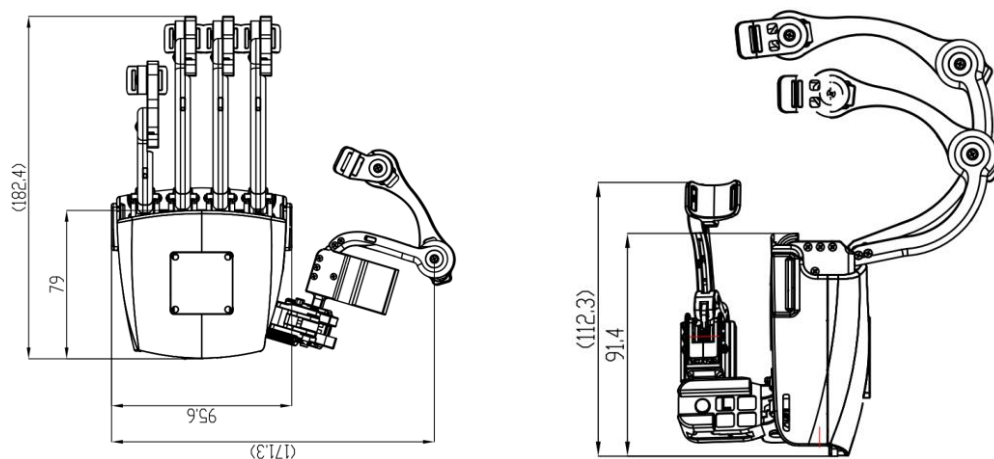
freely based on actual usage scenarios.

1.3 Product Display



Linker FFG Product Image

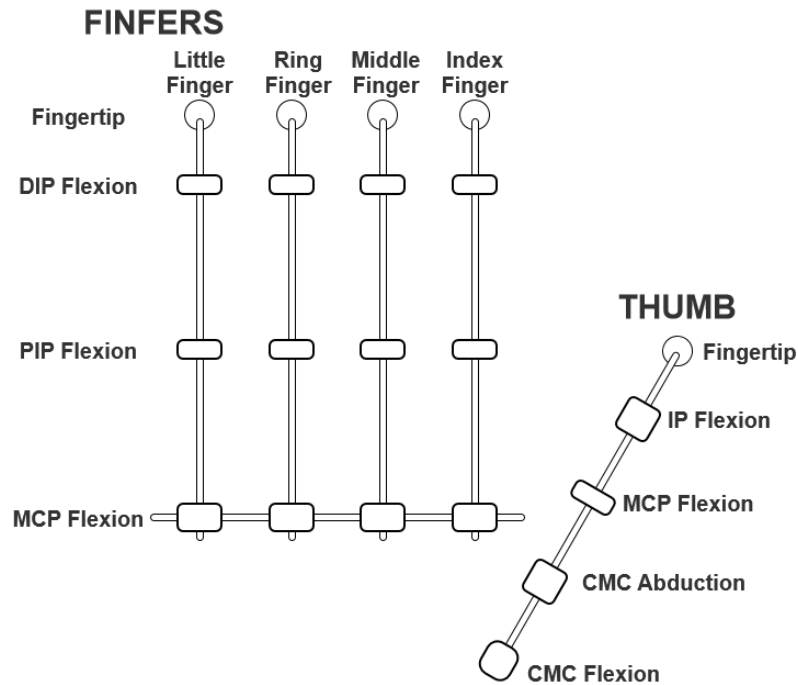
1.4 Product Dimension Drawing



Linker FFG Product Dimension Drawing (Unit: mm)

1.5 Degrees of Freedom & Range of Motion

This device is configured with a total of 21 DoF. The joint distribution is shown in the figure below.



Hand Joint Degrees of Freedom Diagram

Joint Angular Range (Unit: °)								
Thumb	CMC Flexion	33	Index Finger	MCP Flexion	20	Middle Finger	MCP Flexion	20
	CMC Abduction	95		PIP Flexion	95		PIP Flexion	95
	MCP Flexion	95		DIP Flexion	50		DIP Flexion	50
	IP Flexion	73		Fingertip	255		Fingertip	255
	Fingertip	255						
Ring Finger	MCP Flexion	20	Little Finger	MCP Flexion	20			
	PIP Flexion	95		PIP Flexion	95			
	DIP Flexion	50		DIP Flexion	40			
	Fingertip	255		Fingertip	255			

2. Product Specifications

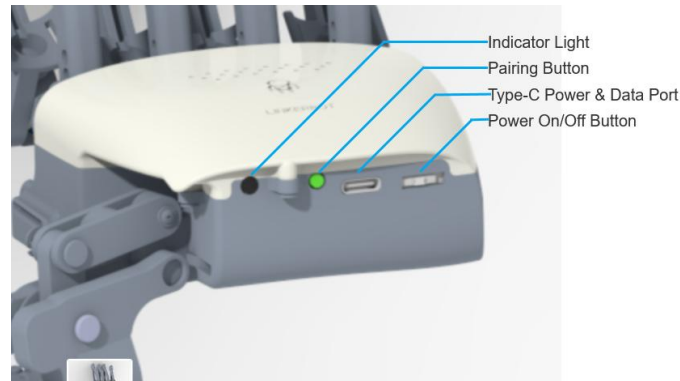
Specification Item	Details
Model	LFFG1-02/03
Degrees of Freedom	21
Sensor Configuration	16 potentiometers + 5 servos
Weight	390g
Capture Accuracy	0.08°
Maximum Torque Output	3.5kg·cm
Data Transmission	Wired / Wireless
Data Refresh Rate	Wired 100Hz / Wireless 30Hz
Wireless Transmission Range	Indoor $\leq 5\text{m}$
Power Supply	5V Type-C

3. Instructions for Use

3.1 Packaging List

No.	Item	Quantity	No.
1		Force Feedback Glove	1 pair
2		Glove Liner	1 pair
3		Type-C Charging & Data Cable (3m)	2 pcs
4		Wireless Receiver	2 pcs

3.2 Button & Interface Introduction



Button & Interface Description

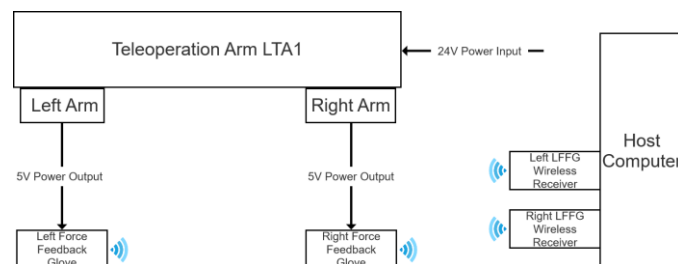
Component	Description
Type-C Port	For wired data transmission and power supply
Power Switch	Toggle to power on (indicator on) / off (indicator off) after Type-C power input
Pairing Button	Press and hold for 2 seconds to enter/exit pairing mode
Indicator Light	Status indication:

Device Status	Indicator Behavior
Wireless Connected	Solid on
Wireless Disconnected	Blink (1s on / 1s off)
Pairing Searching	Blink (200ms on / 200ms off)

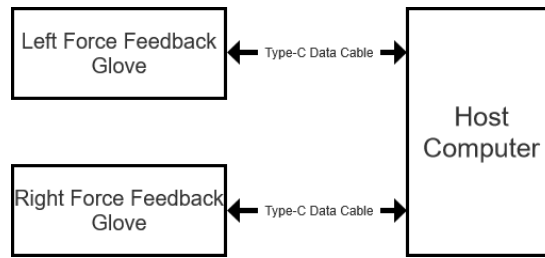
Note: Model FFG1-03 is not equipped with a physical power button.

3.3 Usage Methods

The glove supports Type-C wired communication and wireless communication (choose one mode):



Unlimited Endurance Mode



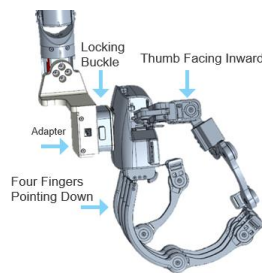
Wired Connection Mode

Note: Wired connection is recommended for more stable data transmission.

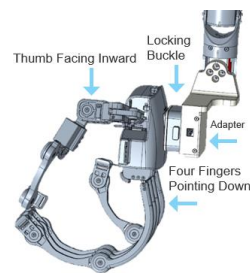
3.4 Assembly Instructions with Remote Control Arm

The glove is compatible with the company's remote control arm; installation steps:

1. Installation



Right Hand

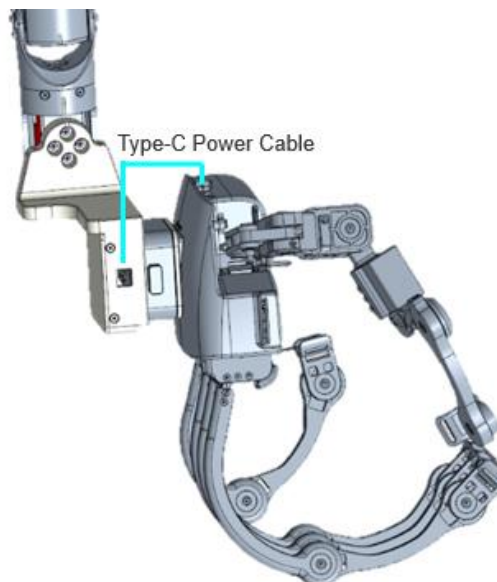


Left Hand

Remote Control Arm Adapter Installation

2. Power Cable Connection

For wireless use, the glove's 5V power can be supplied by the remote control arm (refer to the diagram for operation).



3.5 Wearing Instructions

1. Put on the glove liners with the non-slip side facing the back of your hand.

2. Route the cable tie along its exit direction during fastening to prevent damage to the finger joint structural components.



3. Wear the force feedback glove as follows



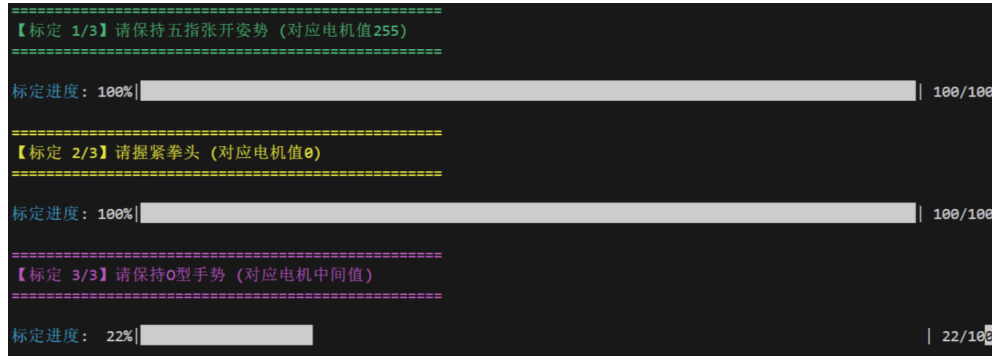
Glove Wearing Guide

4. Cautions

- a) Most parts of the haptic feedback glove are plastic. Do not drop or strike the unit to avoid structural damage.

3.6 Gesture Calibration Instructions

After launching the SDK, follow on-screen prompts to complete calibration.



Hold each gesture for ~5 seconds until the progress bar finishes.

1. Palm Open Calibration



Open Hand Calibration Illustration

Important Precautions: Push the thumb fully backward to reach its maximum limit position.

2. Fist Clench Calibration



Diagram of Fist Clench Calibration

Important Precautions: Clench four fingers tightly; bend the thumb to the middle finger position.

3. O-Shape Calibration



Diagram of O-Shape Calibration

Important Precautions: Bend the first joint of the thumb as much as possible to capture its maximum bending limit.

4. After-Sales & Service Terms

- 1) The product includes a 12-month limited warranty from the purchase date.
- 2) Free repair or part replacement is provided for failures caused by manufacturing or material defects during the warranty period.
- 3) Warranty Exclusions:
 - Cosmetic wear from normal use
 - Damage from improper operation, accidents, unauthorized disassembly, or non-compliance with the user guide
- 4) No returns or exchanges for non-quality-related issues.
- 5) Contact official support immediately for malfunctions; do not disassemble the device yourself.
- 6) Repairs outside the warranty period will be charged at standard rates.

Appendix

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