Bionic Manipulator System Controlled by Sensor Gloves

User Manual

Version: February 20, 2022

Product Package

- **Sensor Glove**
- **Manipulator**: vehicle (movable platform), robotic arm, bionic hand, camera, power source

Applicable Scenario

- Picking up objects from the ground or table;
- Answering the phone call or door bell;
- Doing dangerous and/or repeated work;
- ...

Technical Parameters

The basic technical parameters are listed in Table 1. They can be concluded as being **powerful** and **flexible**.

Table 1: Technical Parameters

Parameter	Value
Vehicle maximum load	5kg
Vehicle maximum moving speed	4.2m/s
Manipulator maximum load	1kg
Robotic arm turning angle	$-135^\circ \sim 135^\circ$
Robotic arm pitch angle	$-30^\circ \sim 90^\circ$
Robotic arm horizontal rotation angle	$-75^\circ \sim 75^\circ$
Robotic finger maximum bending speed	$150^\circ/s$
Response delay	< 0.1s
Vehicle size	29cm × 27cm

Glove Using Guide

The glove needs to be turned on before using and regular recharge is required. Gestures are defined in Table 2 and you will be acquainted with them by some tests. With the aid of the carried camera which connects to your display if they are under the same Internet, you can try using the glove without keeping the manipulator in sight. Detailed tutorials are posted at GloveGo.com/tutorial. Basically, there are two modes: MOVING and HAND. The MOVING mode is triggered by making a fist. Otherwise it is in the HAND mode.

Table 2: Instructions of the Sensor Glove

Mode	Instruction	Response
MOVING	Fist Leans Forward	Vehicle moves forward
	Fist Leans Backward	Vehicle moves backward
	Fist Leans to Left	Vehicle shifts left
	Fist Leans to Right	Vehicle shifts right
	Fist Turns Left	Vehicle turns left
	Fist Turns Right	Vehicle turns right
HAND	Leans Forward	Robotic arm moves forward
	Leans Backward	Robotic arm moves backward
	Leans to Left	Robotic arm turns left
	Leans to Right	Robotic arm turns right
	Fingers Move	Bionic hand simulates gesture

In the MOVING mode, moving forward and backward, shifting, and turning can be at the same time and their speed is decided by the degree of inclination or the offset angle. In the HAND mode, movements of the bionic hand and the robitic arm are independent.

Troubleshooting

Below are problems you may encounter when using our product. You may submit issues or contact us for assistance.

Manipulator Not Moving

If the whole manipulator does not move, check (1) the power source (2) the Bluetooth connection. If only the robotic arm or finger can not move, check the Bluetooth connection.

Manipulator Not Accurate

If the bionic hand is not accurate, reset the flexible sensor parameters. If the robotic arm's movement is not correct, please contact us for assistance.

Can't Connect to Camera

Make sure they connect to the same Internet and check your WiFi connection.

Website: GloveGo.com **E-Mail**: contact@glovego.com

Detailed information and tutorial of the product are available on our website. Please feel free to contact us for any assistance.