Open Source Robotic Glove User Manual

My dear customer, thanks for your continuously attention and support on our Hiwonder products. We hope our products can help you onboard a happy learning journey. To quickly get familiar with our open source glove, please read this note carefully.

Wireless glove is powered by Arduino UNO controller and equipped with five sliding resistors for sensing the movement of the fingers. They are loaded with a gyroscope and a tilt sensor for detecting the movement status of the entire palm. The communication is conducted through the HC-08 Bluetooth module based on the Bluetooth 4.0 protocol, which can achieve master-slave communication with the corresponding HC-08 Bluetooth module and perform signal transmission and communication quickly.

And I will offer you more detailed information about the controller and show you how to operate.

The picture above is our glove controller. And please pay attention to these three points. The controlling part is placed in the lower left corner.

The part in red frame is the signal indicator, the DEL button in green frame is a clear button, and K3 is the mode switch button. For the usage of the indicator and two buttons, you can refer to the following introduction.

STA status indicator

This indicator indicates the current situation of glove, and there are four lighting modes:

1 Short flashing quickly: This mode indicates that the glove is currently in a state where no Bluetooth slave module is connected and there is no match in the memory record with any Bluetooth module slave signal.

2 Slow blinking for a long time: This status indicates that the glove is currently in a state where no controller is connected, but the memory record has a status record matching that of a corresponding Bluetooth module slave.

3 Long light: This status indicates that the Bluetooth module host on the glove has established a link with a Bluetooth slave and is working.

4 Flashing once every two seconds: That means HC-08 module on the glove is currently in the working state of the slave, which is generally not used, please be cautious if you want to use it.

DEl button

The role of this button is to clear the data, for example, I have ever used this glove and a four-legged robot's Bluetooth slave to connect together, then because of the settings in the program I can't connect to other Bluetooth slave modules anyway. At this time, you need to press the DEL button. After pressing, the state of the STA indicator will change from the previous state 2 to the state 1 mode. The glove can be reconnected.

K3 mode switch button

This button is used to change the working state of the palm. Our gloves can directly match our several products with Bluetooth communication, such as palm, hexapod robot, crawler and robotic arm, However, these several controllable products are relatively different, which cannot be perfectly controlled by a program, so we designed the K3 button with code to switch control modes. The LED lights are completely extinguished means the hexapod robot being controlled, One LED light on means controlling a palm, two LED light on means controlling the crawler car series based on the 51 SCM, and the three LED lights control the robotic arm series with the Bluetooth module, and the corresponding products must be converted to the corresponding control mode.

Controlling way:

1 When you use it for the first time, our initial program is already burned, but it is recommended to press the DEL key before using it to avoid problems with the following operations.

2 While using it , pay attention to wearing the glove first. Fix the handle ring firmly as much as possible, so that the potentiometer above can get the maximum program operation, so as to avoid the controlling problem due to the insensitive operation.

3 While using it, make sure that the electricity power of the glove and the palm is normal. Otherwise, it may occur uncontrollable connection due to the insufficient voltage or the lower power of Bluetooth module.

In the process of wearing glove, please make sure the 5 fingers are fixed in position, straighten the arm and clench the fist, keep the palm down, and the power is turned on. The LED in the middle will flash several times quickly. After the flashing, stretch your hand, then the LED will blink again. After that, the

initialization completes.

Then, you can press K3 key to switch the working mode, according to the previous instructions to change the corresponding control mode, the corresponding Bluetooth slave product will be automatically connected. There are too many states of action groups that each type of robot can implement. There are only a few simple actions for each of our corresponding product presets. If necessary, you can expand the program yourself.