

Sensing Module – User Guide

1. Product Overview

The Sensing Channel is a data-acquisition module designed for adult interactive applications. Its primary function is to detect movement speed and insertion depth in real time during use. This information is transmitted to the head module or a VR app to drive synchronized responses such as facial expressions, voice feedback, and VR animations. By enabling these interactions, the module enhances human-machine interaction and improves the overall immersive experience.

2. Product Features

2.1 Enhanced Interactive Experience

The module detects and responds to changes in movement speed and depth during use, significantly improving the sense of interaction.

2.2 Greater Immersion

It can be linked with facial expressions, voice responses, and VR animations, creating a more immersive and engaging experience.

2.3 Faster Response

The system enables rapid feedback during operation, ensuring a smoother and more natural interaction.

2.4 Richer Sensory Experience

Multiple linkage mechanisms allow the product to deliver a more diverse and engaging sensory experience.

3. Technical Specifications

Category	Parameter
Material	PC (Polycarbonate) + Liquid Silicone

Interaction	Parameter Detection: Supports detection of movement speed, insertion depth, sensing position, and sensing point data. Connectivity: Can be connected to the head control module via a wired connection or paired with a VR App via Bluetooth. Feedback Applications: Can be used to drive real-time linked responses such as facial expressions, voice output, and VR animations.
Power & Consumption	Power Supply: 12V DC Operating Current: 3.5A
Environmental Requirements	Operating Temperature: 0°C ~ 50°C Operating Environment: Recommended for use in a dry, clean environment without obvious condensation.

4. Component Description

Component	Function
Charging Port	Type-C charging interface
Charging Indicator	Charging: Solid red Fully charged: Solid green Error: Red and green flashing

5. Operating Procedure

This product supports two usage modes: connection with the head device and connection with a VR App.

5.1 Using with the Head Device

1. Install the sensing channel module correctly into the designated position of the device and check whether the power cable and communication cable are properly

connected.

2. Connect the sensing channel module to the head device via the connection cable.
3. After the power is turned on, the system starts operating, and the sensing channel begins collecting motion parameters in real time.
4. After receiving the transmitted data, the head device outputs corresponding responses such as facial expressions and voice feedback according to the user's motion changes.
5. After use, turn off the device power and check whether all connections are in normal condition.

5.2 Using with the VR App

1. Install the sensing channel module correctly and connect the power supply, ensuring the device is operating normally.
2. Enable Bluetooth and connect the sensing channel module to the VR App.
3. After a successful connection, the sensing channel module collects motion parameters in real time during use and synchronizes them to the VR App.
4. The VR App performs motion mapping and scene feedback based on the received real-time data, enhancing immersion and interactive experience.
5. After use, disconnect the Bluetooth connection and turn off the device power.

6. Legal and Regulatory Information

(Reserved)

7. Precautions

7.1 Safe Operation

1. Before use, ensure that the power supply voltage meets the product requirements. Do not use power adapters that exceed the specified rating.
2. Do not disassemble the main board, wiring harness, or communication interfaces while the device is powered on.

3. Do not modify the layout of sensing elements, main board interfaces, or communication wiring without authorization, as this may affect detection accuracy or damage the device.
4. If abnormal heating, unusual odor, communication failure, or abnormal data occurs, stop using the device immediately and disconnect the power supply for inspection.
5. This product is an electronic sensing device and must not be used for medical, monitoring, or safety-protection purposes.
6. When connecting with other devices, ensure that interface protocols, voltage levels, and connection methods are compatible before powering on for testing.

7.2 Environmental Requirements

1. Recommended operating temperature: 0°C – 50°C.
2. Avoid use in environments with high temperature, high humidity, strong static electricity, strong magnetic fields, or excessive dust.
3. Prevent liquids from entering the main board, connectors, or internal electronic components.
4. Avoid prolonged exposure to direct sunlight or enclosed high-temperature environments.
5. During transportation and installation, avoid severe impact, compression, or pulling of cables.

7.3 Maintenance and Care

1. After use, clean the washable parts according to product requirements and keep them dry.
2. Disconnect the power supply before cleaning. Do not clean the device while it is powered on.
3. Regularly check whether sensing elements, connectors, wiring harnesses, and fixing structures are loose, worn, or aged.
4. If the device will not be used for a long time, disconnect the power supply and

store it in a cool, dry, and ventilated environment.

5. Disassembly, maintenance, troubleshooting, and component replacement should be carried out by qualified professionals.

6. Firmware upgrades, parameter adjustments, or sensing system modifications should be performed by R&D personnel or authorized technical support staff.

8. Troubleshooting

(Reserved)

9. After-Sales Service

Email: service@wxbionics.com

Website: www.wxbionics.com

Federal Communications Commission (FCC) Statement. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received,

including interference that may cause undesired operation. Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide Reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the

user is encouraged to try to correct the interference by one or more of the

following

measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: Changes or modifications made to this device not expressly approved by may void the FCC authorization to operate this device. Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

RF exposure statement:

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. The device is installed and operated without restriction.