The Team

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Conclusion

The EngineeRing system demonstrates how wearable technology can provide an intuitive alternative to traditional computer input devices. Through multiple operating modes and a comprehensive set of gestures, the ring enables flexible interaction for everyday use, accessibility support, and professional presentations.

This manual provides the necessary information to operate the device confidently and effectively. As users become familiar with the system, they can customize their workflow by selecting the most appropriate modes and gestures for their tasks. The EngineeRing device is designed to be adaptable, efficient, and easy to use, offering a modern approach to hands-free computer control.

EngineeRing

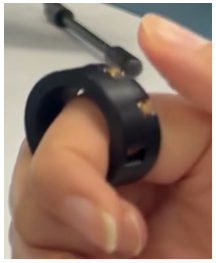
Control at your fingertip

User Manual

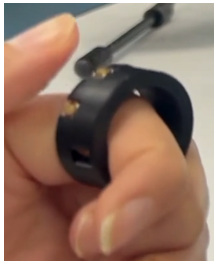
Version 1.0

The EngineeRing device is a wearable smart ring designed to provide intuitive, hands-free control of a computer through natural finger and hand movements. By combining inertial sensing, wireless communication, and a desktop software interface, the system allows users to interact with their computer without relying on a traditional mouse or keyboard.

How to Wear



Right-Hand Use



Left-Hand Use

Operating Modes

The EngineeRing system supports multiple operating modes to accommodate different use cases and interaction styles. Each mode adjusts how gestures and button inputs are interpreted, allowing the ring to function as a general-purpose mouse, an assistive typing tool, or a presentation controller. Users can manually switch between modes using a designated button gesture. Understanding the purpose of each mode helps ensure the most efficient and comfortable user experience for a given task.

Modes
Universal
Regular
Typing
Click-to-Type
Dwell-to-Type
Presentation

Each operating mode is designed to optimize the EngineeRing system for a specific type of interaction.

Gesture Controls

The EngineeRing device uses a combination of button presses, holds, and cursor positioning to perform system actions. These gestures allow users to control the computer without complex movements, making interaction intuitive and accessible. The following tables describe each supported gesture, its corresponding action, and its intended purpose. Gestures are grouped to reflect general system control, navigation, scrolling, zooming, typing, and presentation functionality.

#	Gesture	Purpose
1	Hold both buttons for 5 seconds	Exit EngineeRing
2	Click both buttons at the same time	Calibrate
3	Hold both buttons for 5 seconds	Disconnect ring from connected device
4	Hold right-click button for 5 seconds	Manually Switch Modes
5	Click	Right click/Left click
6	Double click right-click button	Exit window
7	Hold right-click button hover in desired scroll direction	Scroll
8	Double click left click button	Zoom in
9	Hold left button	Zoom out
10	Double-click right-click	Click-to-Type ↔ Dwell-to-Type
11	Left-click	Next Slide
12	Right-click	Previous Slide
13	Double-click right-click	Enter Slideshow ↔ Enter Slideshow
14	Double click left-click	Mouse Icon ↔ Laser
15	Hold left click for 1.5 seconds	Annotation Pen ↔ Regular Mouse
16	Triple click left-click	Undo Annotation

The gesture-based control system allows users to perform a wide range of actions using simple and repeatable inputs. By combining button presses with cursor positioning, the EngineeRing device minimizes the need for physical peripherals while maintaining full functionality. With regular use, gestures become intuitive, enabling efficient and seamless interaction across all supported modes.