KIT Prosthetic Hand

A five-finger 3D printed hand prosthesis with an underactuated mechanism, sensors and embedded control system. It has an integrated RGB camera in the base of the palm and a colour display in the back of the hand. All functional components are integrated into the hand, dimensioned according to a 50th percentile male human hand. Accessible via a simple communication interface (serial interface directly or via Bluetooth) or controllable via buttons. Camera and display allow for studies on vision-based semi-autonomous grasping and user feedback in prosthetics. As a stand-alone device the hand allows easy usage in different environments and settings.

Key Features

- Serial communication and Bluetooth low energy
- RGB camera and OLED colour display
- Fast, integrated microprocessor (216 MHz)
- Adaptive, compliant grasping behaviour
- I²C interfaces for additional sensors

Possible Applications

- Sensor application and sensor fusion
- Semi-autonomous control
- Prosthetics
- Grasping and Manipulation
- Prosthetic user feedback

Access information

Corresponding infrastructure	Karlsruhe Institute of Technology Institute of Anthropomatics and Robotics - High Performance Humanoid Technologies Lab (IAR H2T)
Location	Adenauerring 2, 76131 Karlsruhe, Germany
Unit of access	Working day

Technical specifications

Processor	ARM Cortex M7
Full finger flexion speed	1.3s
Finger force	7.5 – 11.8 N
Hook grasp force	120 N
Power supply	12V, 2A peak
Interface	serial / Bluetooth LE
DoA	2
Camera	1.2 MP RGB
Display	OLED colored

Additional information

Additional Information available here.