



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)
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Location	Adenauerring 2, 76131 Karlsruhe, Germany
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Unit of access	Working day
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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](#).