

AIDIN-HAND

ROBOT HAND



Miniature 6-Axis F/T
Sensor Inside

AIDIN ROBOTICS' self-developed robot hand is equipped with Miniature 6-axis F/T sensors (AFT50) at each fingertip. This enables precise and delicate grasping operations that are difficult to achieve with conventional grippers, supporting more refined and versatile object handling.
(*This product is available as a research and R&D platform only.)

Key Features

- ✓ Equipped with Miniature 6-axis F/T sensors at all five fingertips, enabling precise and delicate handling for various tasks.
- ✓ Supports reliable manipulation of diverse objects through appropriate grasp types (power, tripod, pinch) using F/T sensor-based motion control.
- ✓ All motors and electronics are fully integrated into the hand structure.
- ✓ Designed with a link-driven mechanism for high control precision and efficiency.
- ✓ Possible to utilize AI imitation learning (Tele-Operation) linked with gloves.

Application

- ✓ Collaborative robot
- ✓ Warehouse picking robot
- ✓ Home-service robot
- ✓ Prosthetic hand

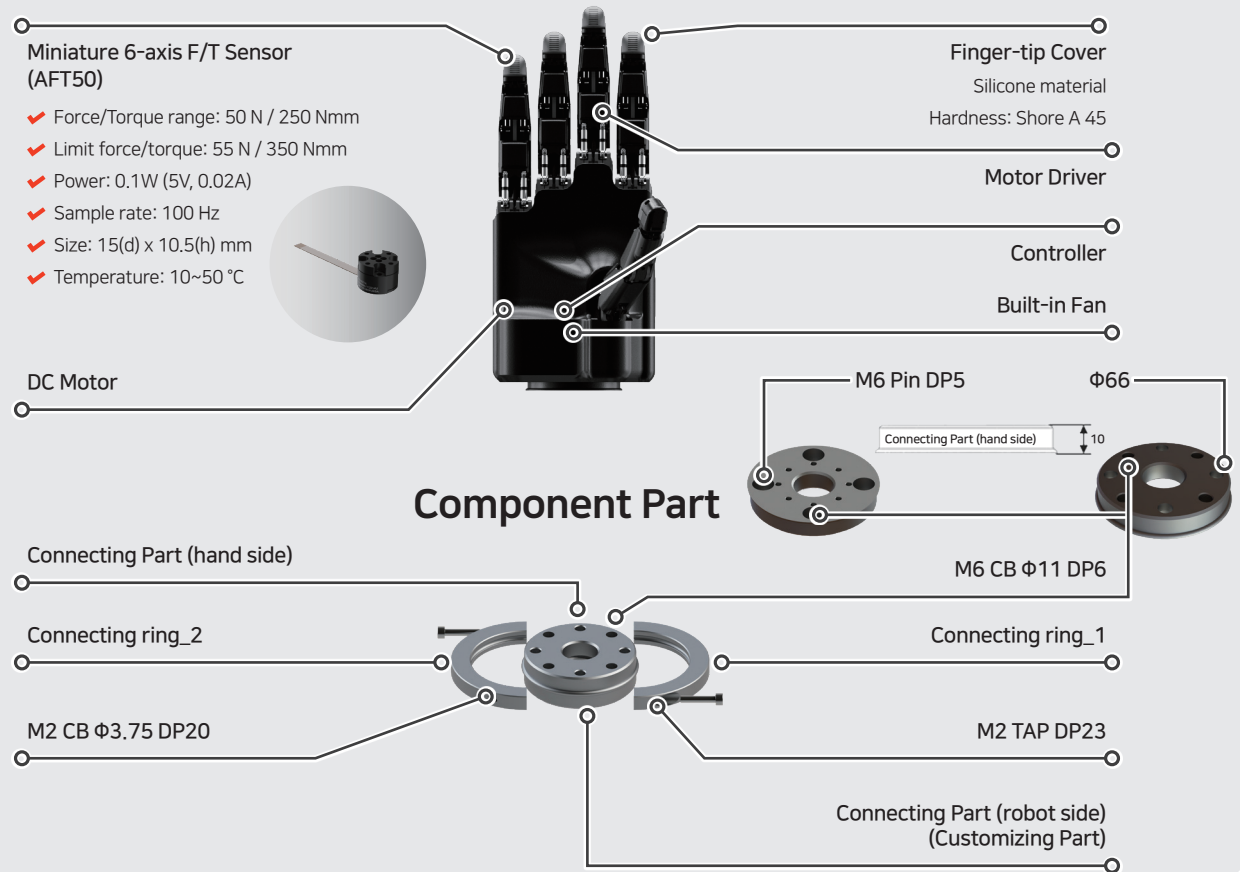
Specifications

Index	Unit	Value
Grasping mode	Mode	Power Mode (cylindrical, spherical, etc) Precision Mode (pinch, tripod, etc)
Degree of Freedom (Finger)	DoF	3
Degree of Freedom (Hand)	DoF	15
Finger-tip force	N	20
Payload	kg	15
Size	mm	291 x 112 x 120
Weight	kg	1.3
Finger-tip sensor	EA	5 (Miniature 6-axis F/T Sensor, AFT50-D15)

YouTube



✓ Hardware Components of AIDIN-HAND



✓ Control System Overview



API Coverage

- ✓ API type: Control command interface based on ROS communication messages (C++ structure)
- ✓ API commands:
 - Initialization commands (Homing mode, Teaching mode, Sensor initialization mode, Current limit Setting, Etc.)
 - Motion commands (Basic grasp mode, Joint and Cartesian position control mode, Current control mode, Etc.)

Operating & Support environment

- ✓ Ubuntu 18.04 with ROS1 Melodic version
- ✓ Ubuntu 20.04 with ROS2 Foxy version
- ✓ Control command cycle: 1 kHz (real-time control based on Xenomai)

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