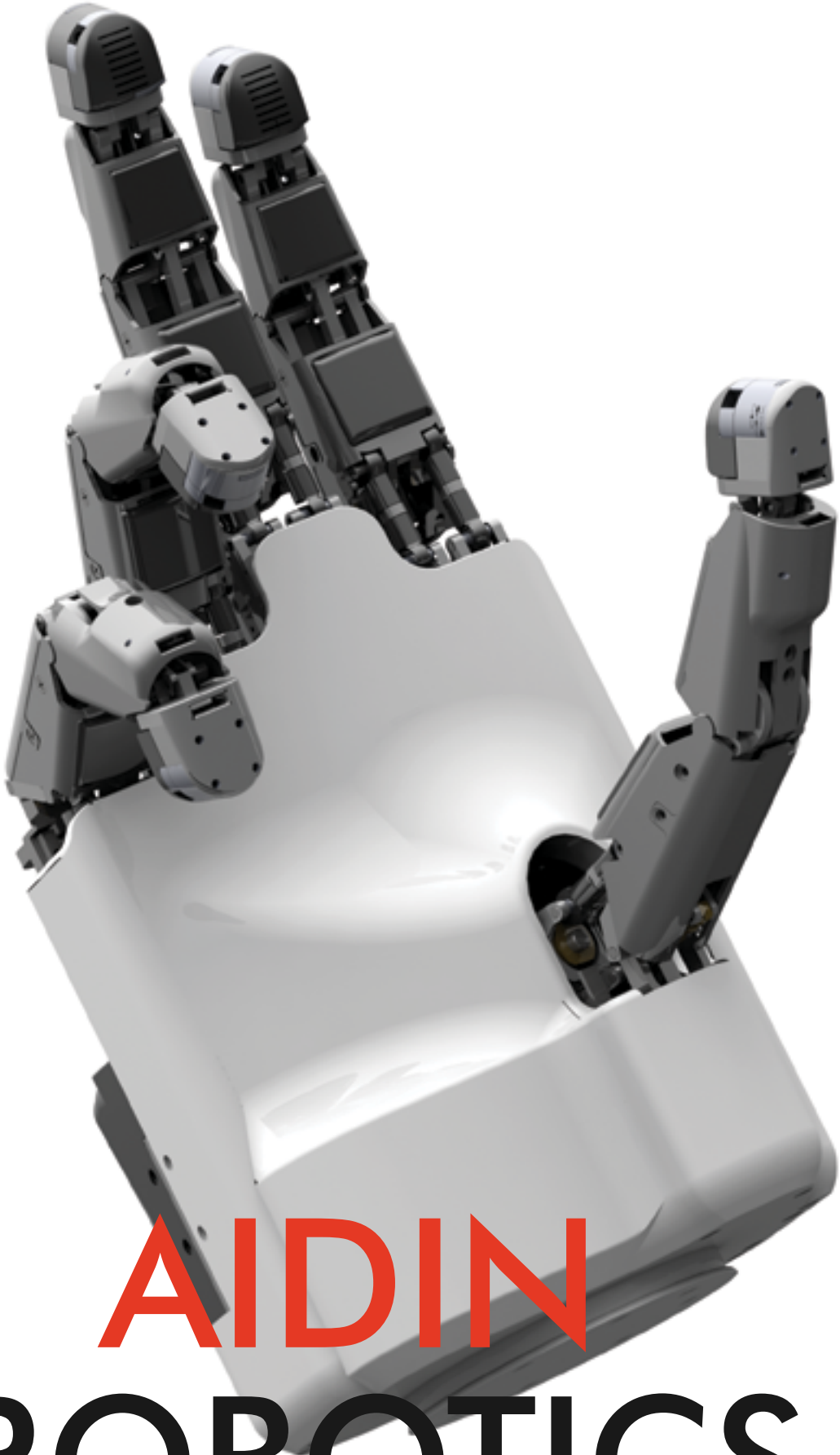
ENGLISH



AIDIN ROBOTICS

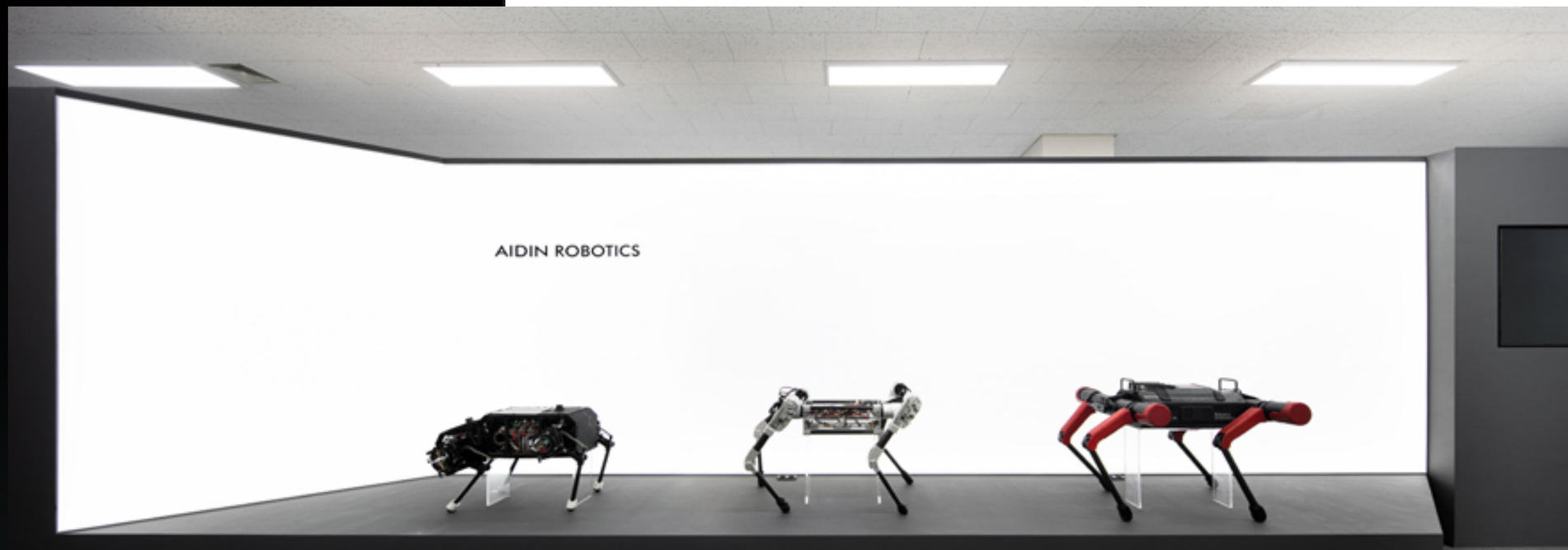
One-stop Robotic Solution for Safe Collaboration

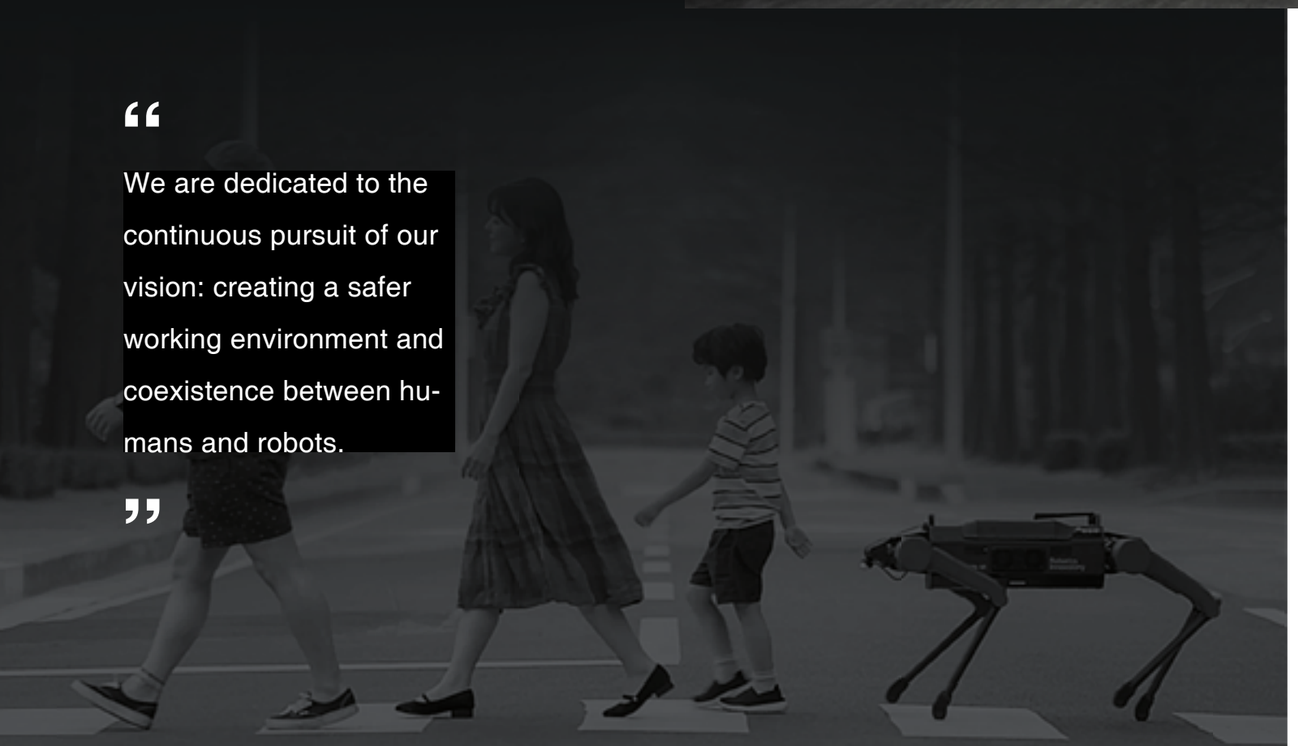
Robotic Components | Cobot Solutions | No-code Automation

AIDIN
ROBOTICS Inc. is a robot company that started from Robotics Innovation Laboratory in the Department of Mechanical Engineering at Sungkyunkwan University in South Korea. Our expertise lies in developing robotic system and AI-driven sensor technologies based on our Field Sensing technology, which we have been accumulating since 1995.

The world's leading field sensing technology

AIDIN
ROBOTICS





“

We are dedicated to the continuous pursuit of our vision: creating a safer working environment and coexistence between humans and robots.

”

One - stop Robotic Solution for Safe Collaboration

Our focus is on preventing accidents and improving productivity between humans and industrial/collaborative robots.

The Competitiveness of AIDIN ROBOTICS

The newest Power Sensing Technology which successfully overcomes the limitation of existing force/torque sensing based on capacitance.

The new robotic components with expanding solution business 2024

Diversify the product lineup of previous force/torque sensor and Release a new safety sensor. Expand to Robotics automation area with self-developed sensors and Lead a market as a robotic components and one-stop solution provider.

Producing the second-generation product 2022

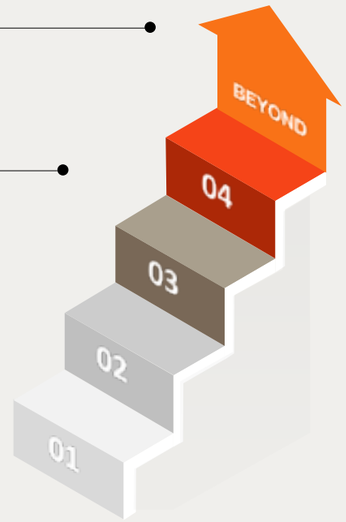
Launch the second-generation version doubling performance and reliability.

Unveil the first-generation force/torque sensor with capacitance type 2019

Build AIDIN ROBOTICS to enhance the competitiveness of Korean robotics industry and production of our sensors.

Develop the core technology of force/torque sensor based on capacitance type ~2019

SKKU Lab successfully developed 'Force/Torque Sensing Technology' based on capacitance type with a reasonable price for decades.



Unique Source Technology for measuring capacitance

A manpower focusing on researching robot field

1/10 price compared to others

Leading a domestic market for miniature, 6-axis sensor

HISTORY

2019

Established corporation

2020

Selected as the excellent company of robotics company foundation support program in Gyeong-gi do
Established Laboratory in company
Selected as The beginning foundation support package program
Certification of Venture Business & Technology with a limit under two billion
Investment attraction from Future Play, Korea Development Bank Capital, Shinhan Bank capital
Selected as Tech Incubator Program for Startup
Award of R-biz Challenge from Korea Association of Robot Industry
Award of Korea Robot Company of The Year 2020
Award of Excellent Product in ROBOTWORLD 2020

2021

Selected as Core-Tech Development Business in Robotics field (Task Scale 3 billion)
Award of Korea Robot Company of The Year 2021 (Two years in a row)
Award of Excellent Product in ROBOTWORLD 2021 (Two years in a row)

2022

Attraction of investment Series A (4.5 billion Scale)
Selected as Managing department developing the customized torque sensor for service robot
MOU Contract for the extension of AI technology corporation for quadruped robot with Snuailab
Award of Korea Robot Company of The Year 2022 (Three years in a row)
Award of Excellent Product in ROBOTWORLD 2022 (Three years in a row)

2023

Selected as Deeptech Incubator for startup 1000+
Participate in ICRA 2023 exhibition
Contract for developing quadruped robot with POSCO
Award in International Robot Contest & R-biz Challenge 2023
Award of Korea Robot Company of The Year 2023 (Four years in a row)
Award of Excellent Product in ROBOTWORLD 2023 (Four years in a row)
Certification of Quality Management System ISO9001:2015

2024

Selected as Cooperation Development Group of the evaluation
focused on operating a skilled robot and supporting gripping performance
(With Korea Electronics Technology Institute, National Institute of Standards and Technology)
Contract for a local supply and sales with DINGS in China
Attracted KRW 15 billion in Series B funding
Signed an MOU with CJ Logistics for the development of robotic picking solution for logistics automation

Business Area

Robot Sensor
Our self-developed Force/Torque sensor could be adapted at various industrial robots and grippers. It provides controlling force, measuring torque, and detecting collision. In addition, We help to gauge any distance and contact force with an innovated safety sensor.

Smart Gripper
It could be combined and utilized following a use environment and manufacturing places with a competitive feature of parallel gripping mode, high-accuracy and high-speed.

Robotics Automation
Our self-developed technology of gripper, AI vision Algorithm could spread Force control solution for Manufacturing automation applied for delivery process, welding, grinding etc, Robotic picking solution for logistics automation and Quadruped robot solution for inspecting industrial facilities.

PRODUCTS

Robot Sensor

Force/Torque Sensor

Smart 6 axis F/T Sensor
AFT200-D80

Ultra-thin Joint Torque Sensor
ATSB-Series

Miniature 6 axis F/T Sensor
AFT20-D15
AFT50-D15

F/T Sensor KIT

Smart 6-axis F/T Sensor KIT
AFT200-KIT-RB

Smart 6-axis F/T Sensor KIT
AFT200-KIT-NRMK

Safety Sensor

Panoradar Sensor
ARS-5000
*Under Development

Smart Gripper

End of Arm Tool

Smart Gripper
SusGrip
SusGrip-FT

Robot Hand

Robotic Hand
AIDIN hand
*For Research

Robotics Automation System

Robotic Solution

Force Control Solution for Manufacturing Automation
Co-worker
*Under Development

Robotic Picking Solution for Logistics
PICKER
*Released in 2025

Industrial Facility Inspection Soulution
AiDIN
*Under Development

Robot Controller

Real-time Robot Motion Controller
ARC6

Smart 6 axis F/T Sensor

Model AFT200-D80

Reference

Dimensions

80mm x 20.5mm

Applicable Robots

- Universal Robots
- Doosan Robotics
- Rainbow Robotics, Neuromeka
- Other collaborative/industrial robots

Features

The advanced F/T sensor with high precision based on the fringe effect and capacitance

Essential sensor for robot wrists, enabling tool collision detection, tool weight compensation, force control, direct teaching tool, and object weight measurement

Excellent environmental resistance

4kV discharge test passed

IP56 obtained waterproof/dustproof rating

Applications

- Industrial / Collaborative robot
- Lead-thru device
- Welding, sanding, grinding, assembly operations
- Warehouse robot
- Smart Factory / Automation

KC Registration Number

CAN	R-R-And-AFT200-D8-C
EtherNet	R-R-And-AFT200-D8-EN
EtherCAT	R-R-Adn-AFT200-D8-EC

Specifications

Index	Unit	Value		
		C (CAN)	EN (EtherNET)	EC (EtherCAT)
Operating voltage	VDC	5	12	12
Max. safe excitation voltage	VDC	12	24	24
Nominal force range	N		200	
Nominal torque range	Nm		15	
Limit force (Fxyz)	N		300	
Limit torque	Nm		25	
Resolution (Fxyz)	N		0.15	
Resolution (Txyz)	Nm		0.015	
Maximum sample rate	Hz		1,000	
Dimensions	mm		D80 x H20.5	
IP rating		IP56	IP65	IP65
Operating temperature			10-60 ℃	

Smart 6 axis F/T Sensor KIT

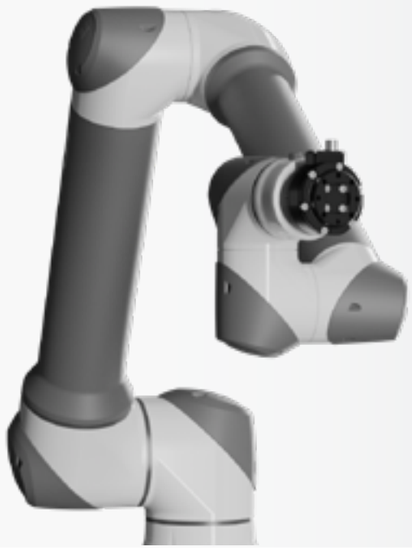
All-in-One F/T Sensor
based on the advanced field sensing technology

Model AFT200-KIT-RB
AFT200-KIT-NRMK

Applicable Robot

- **Rainbow Robotics** RB3, RB5, RB10, RB16
- **Neuromeka** Indy7
- Accepting our partners

Rainbow Robotics



Neuromeka

Features

- F/T sensor applied with the self-developed technology with capacitance
- Support Plug&Play mode based on collaborative robot brand
- Provide Customized KIT for each collaborative robot band
- Easy Set-up mode in Teaching Pendant

Applications

- Applicable to various processes requiring force control technology (Polishing, Sanding, Grinding etc)
- Processes for assembling cables or components
- Industrial robot / Collaborative robot
- Smart Factory / Automation

Function

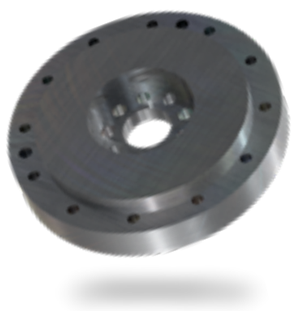
- Precise force measurement
- Force Control mode that any user could use directly in teaching pendant
- Collision detection and stop function through force measurement

Specifications

Index	Unit	AFT200-KIT-RB C(CAN)	AFT200-KIT-NRMK C(CAN)
Weight	g	505 (Sensor 236g, Bracket 269g)	635 (Sensor 236g, Bracket 399g)
Operating voltage	VDC	5	
Max. Safe excitation voltage	VDC	12	
Nominal force range	N	200	
Nominal torque range	Nm	15	
Resolution(Fxyz)	N	0.15	
Resolution(Txyz)	Nm	0.015	
Dimensions	mm	D80 * H52.3	D80 * H56.3
IP Rating		IP56	
Operating temperature		10-60℃	

Ultra-thin Joint Torque Sensor

Model ATSB 50 / 100 / 200 / 400



Dimensions

ATSB 50 : 84mm x 14mm
ATSB 100 : 100mm x 16mm
ATSB 200 : 100mm x 18mm
ATSB 400 : 120mm x 20mm

Applications Example

Collaborative Robot

Features

Ultra-thin joint torque sensor for collaborative and articulated robots

Ultra-thin joint torque sensor accurately and sensitively measures torque applied to robot joints, enabling precise collision detection and torque control in a compact design.

Excellent environmental resistance
4kV discharge test passed

Applications

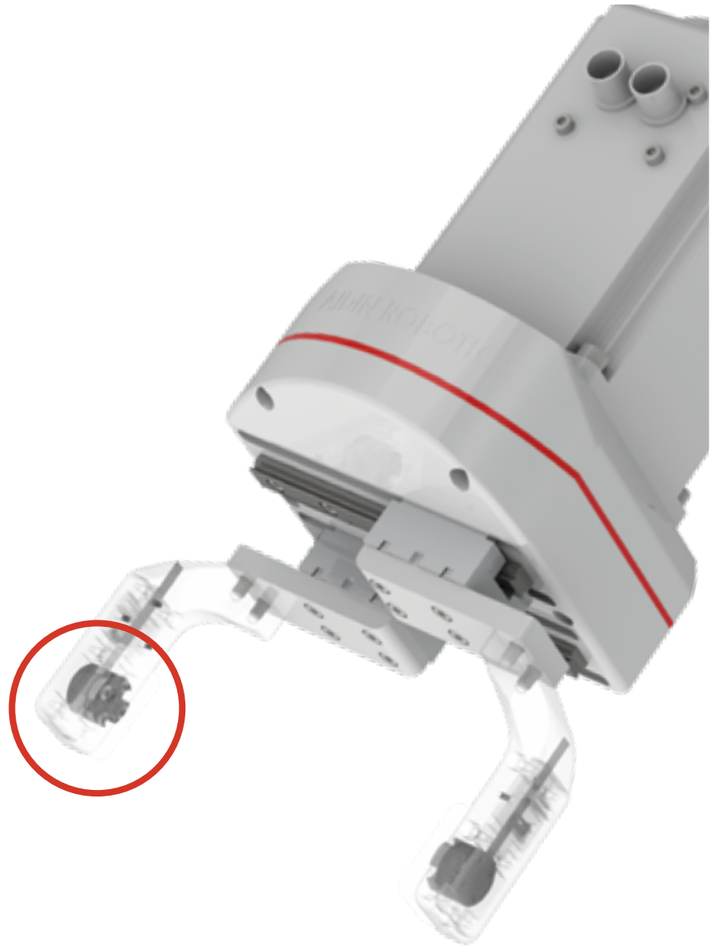
- Collaborative robot
- Wearable robot
- Medical device
- Rehabilitation robot

Specifications

Index	Unit	ATSB50	ATSB100	ATSB200	ATSB400
Operating voltage	VDC	5			
Max. safe excitation voltage	VDC	10			
Nominal torque range (T_N)	Nm	50	100	200	400
Overload (related T_N)	%	300			
Resolution	Nm	0.03	0.05	0.1	0.2
Weight	g	120	190	210	310
Dimensions	mm	D84 x H14	D100 x H16	D100 x H18	D120 x H20
Sample rate	Hz	1,000			
Temperature	10-60 ℃				
Interfaces	CAN (2.0 A/B)				
Connector	4 PIN VCC / GND /CAN_H / CAN_L				

Miniature
6 axis F/T Sensor

Model AFT20-D15
AFT50-D15



Dimensions
15mm x 10.5mm

Application Examples
Gripper

* Example Image

Features

The world's smallest 6-axis force/torque sensor

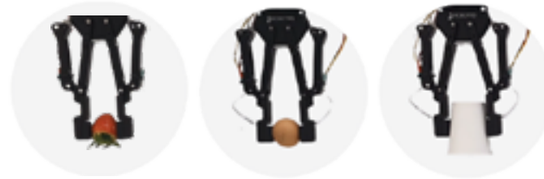
Suitable for mounting on the gripper's tip end to handle irregular objects such as food, rubber, and plastic injection-molded products without causing damage
Applicable to VR, haptic devices, and medical fields as well

Excellent environmental resistance
4kV discharge test passed

KC Registration Number R-R-Adn-AFT20-D15

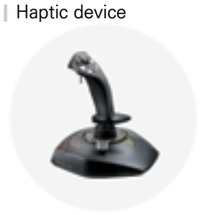
Applications

Gripper



VR / AR device

Haptic device



Robot hand

Medical device

Specifications

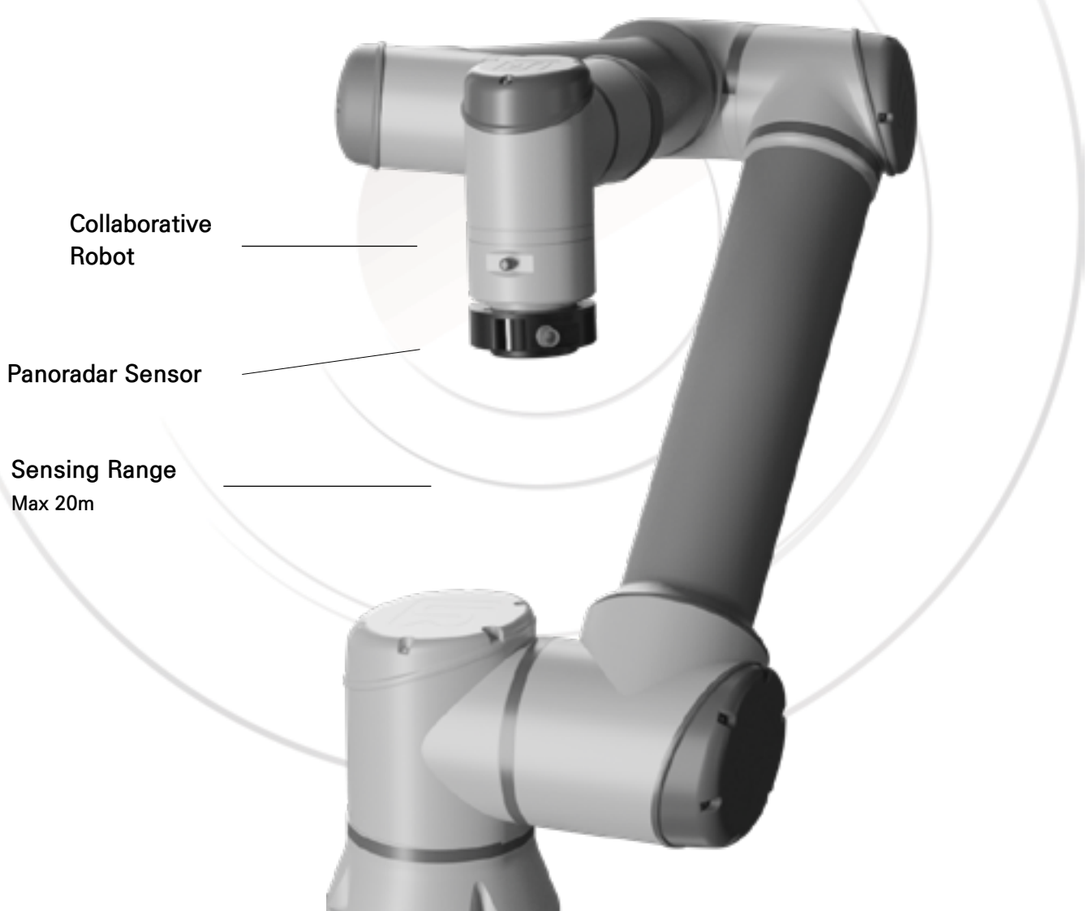
Index	Unit	AFT20-D15	AFT50-D15
Operating voltage	VDC	5	
Max. safe excitation voltage	VDC	10	
Force range	N	20	50
Torque range	Nm	0.1	0.25
Break force	N	30	75
Break torque	Nm	0.15	0.35
Force resolution	N	0.2	0.3
Torque resolution	Nm	0.0005	0.001
Sample rate	Hz	100	
Dimensions	mm	D15 x H10.5	
Weight	g	3.2	
Temperature	10-50 ℃		
Interfaces	CAN		
Connector	FPC: 0.5 pitch, 8pin Length: 50, 100, 200 mm For User: CAN_H / CAN_L / VCC / GND		

Panoradar Sensor

Model ARS-5000

Safety sensor for detecting all people and objects
set on a wrist of co-bot without any blind spot

*Under Development



Features

- Safety sensor detecting an surrounding environment and any obstacles to make safe working environment for all workers
- Obstacle Detection (Max 20m)
- Providing a widen detecting scope and accuracy without any blind spot
  (Presence detection / Segmentation / Motion / Tracking / Speed detection)
- Range Resolution: 3cm
- 360 degree detection FoV
- Digital output interface (EtherNet)
- Obtaining safety zone

Applications

- Industrial robot / Collaborative robot
- AMR / AGV
- Delivery robot
- Industrial robot for safety
- Quadruped robot
- Humanoid robot

Specifications

Index	Value	Description
Measurement principle	FMCW – 60GHz	Ultra-wide bandwidth 5.8GHz
Sensing functions	Presence Detection / Segmentation / Motion / Tracking / Speed Detection	
Measurement	Direction, Proximity and Speed	
Angles	4x (±45°) Azimuth 4x (±45°) Elevation FoV	
Working range	Min: 10cm / Max: 20m	Flexible adjustment of aperture angle and distance
Range resolution	Up to 3cm	
Response time	120Hz	Up to 1KHz
Supply voltage	6 – 28Vcc	
Number of detection zones	6 x 4	
Interfaces	EtherNet	RJ45, PoE
Operating temperature	–20 °C ... +70 °C	
Environment	Harsh environment	Rain / Dust / EMI / Fog
Objects detection	Various objects	Glass, wood, paper, human, metallic objects
Dimensions	Diameter: 80mm, thickness: 20mm	
Sensor package	All in one	Sensor body + PoE Cable

Smart Gripper

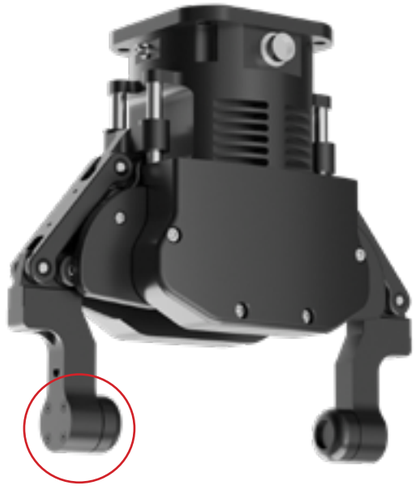
SusGrip

Model SusGrip / SusGrip-FT

Robot gripper providing many smart functions based on parallel motion

AFT-Mini
Minature 6 axis F/T Sensor

Susgrip-FT



Susgrip

Features

- A widen parallel motion, High-precision (**Max 128mm**)
- Smart function (**Object Detection, Automated Lock**)
- **Precise force control mode** with force sensor (Susgrip-FT model)
- **High-speed** and **Strong power** with BLDC motor
- Safe use (**No pinch point**)
- Intuitive GUI

KC Registration Number(SUSGRIP R-R-26a-SusGrip
*Only for SUSGRIP Model

Applications

- Various manufacturing process (Pick & Place) / Sorting / Handling / Palletizing / Assembly / Measure

Industry

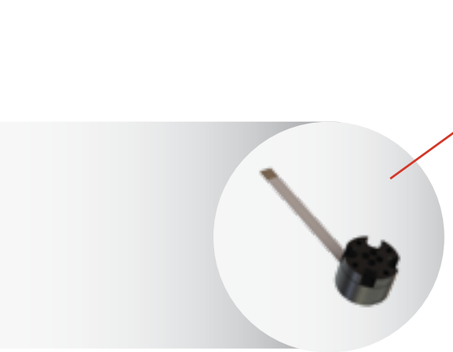
- Semi-conductor / Service / Logistics / Healthcare / Retail

Specifications

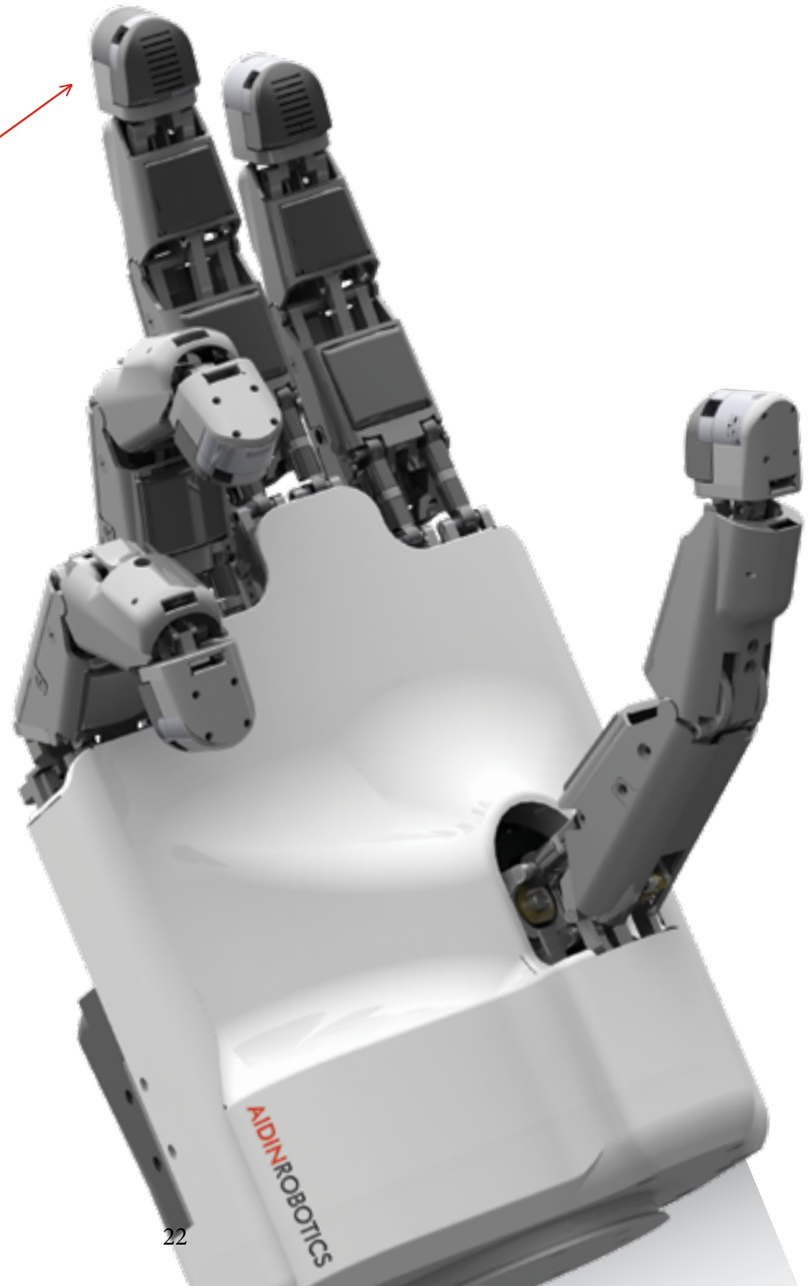
Index	Unit	Value
Gripping force	N	90
Stroke	mm	0-128
Form-fit payload	Kg	5
Voltage	V	24
Max Current	A	2
Repetition accuracy	mm	0.1
Position resolution	mm	0.2
Speed	mm/s	60
Weight	gram	1215

AIDIN HAND

Human-sized Robot Hand



5 X AFT-Mini
Miniature 6 axis F/T Sensor



Features

AIDIN ROBOTICS' proprietary humanoid hand featuring a 6-axis force/torque (F/T) sensor on the fingertip

Dexterous future-proof picking system: Capable of various grasping modes (power, 3-point, pinch, etc.) suitable for different types of objects, and featuring integrated 6-axis F/T sensors, it can reliably handle delicate objects without causing damage

Human-level compact size and light weight

Link-driven mechanism: Offers both high precision and high force efficiency

Applications

- Industrial / 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 or 50
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, AFT20-D15)

Real-time Robot Motion Controller

Model ARC6

Features

Real-time motion/force controller for collaborative robots, designed to be compatible with AIDIN ROBOTICS' sensor products

Equipped with Xenomai, EtherCAT, and ROS middleware

Applications

- Industrial / Collaborative robot
- Sanding, grinding, welding, assembly applications
- Articulated robot control
- Warehouse picking robot control

Specifications

Index	Value
CPU	6th Generation Intel Core I Processor
CPU TDP	i7-6600U
Memory Type	DDR4 2133MHz
Power	9 - 36 VDC
Ethernet	Intel i210/i211, 10/100/1000Base-TX
Connection	DP X1, DVI-I X 1, USB 3.0 X 4, USB 2.0 X 2, COM ports (RS232, 422, 485)
Operating Humidity	0 - 90 %
Operating temperature	0 - 60 ℃
Interfaces	EtherNET, EtherCAT
Operating System	RT-OS (Linux, Ubuntu, Xenomai)

Solution

Force Control Solution for Manufacturing Automation

*Under developement

- **Smart Force/Torque Sensor-Based No-Code Automation Solution**
- **Immediate task automation through intuitive robot teaching**
- **Applicable to various tasks such as grinding, polishing, welding, and more**

2 X AFT200
Minature 6 axis
F/T Sensor (AFT200)

SANDING

POLISHING

GRINDING

- Easy task teaching (points, trajectories, force, etc.)
- Active surface force control technology through target force setting
- Adaptable to various objects, including flat/curved surfaces, narrow areas, and more

1

Attach a force torque sensor (AFT200) to the body to analyze the shape and stiffness of the surface to be processed, and perform polishing process with a constant vertical force

2

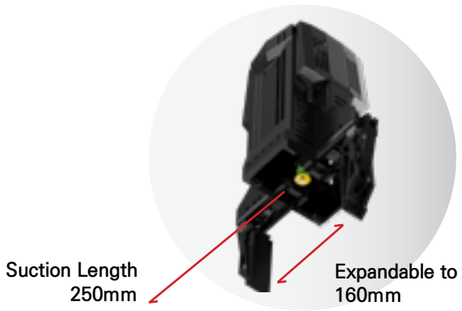
Recognize the user's intentions on the robot handle and teach the robot to be easily controlled to the desired position by the user

Solution

Robotic Picking Solution for Logistics

- Effortless Object Recognition and Grasping: **Our cutting-edge logistics robot picking system is designed to recognize and grasp random objects without the need for any pre-registration process.**
- Integrated AI Vision Technology: **We've developed our own AI vision algorithm, seamlessly integrated with a smart gripper capable of handling objects of various types and sizes. This integration allows our system to adapt to all objects found in logistics environments.**
- Optimized Object Handling: **Through the unified control of both suction and the gripper, our system employs suitable grasping strategies to effectively handle objects, ensuring a seamless and efficient logistics operation.**

*Released in 2025



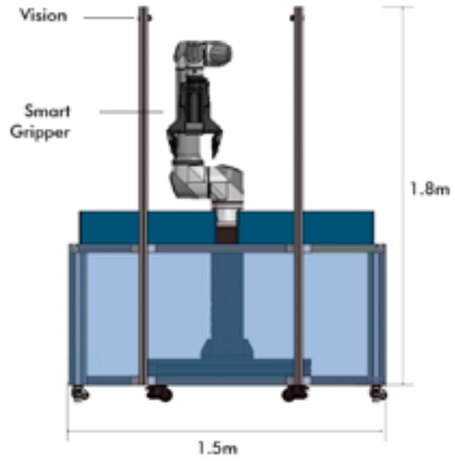
Productivity

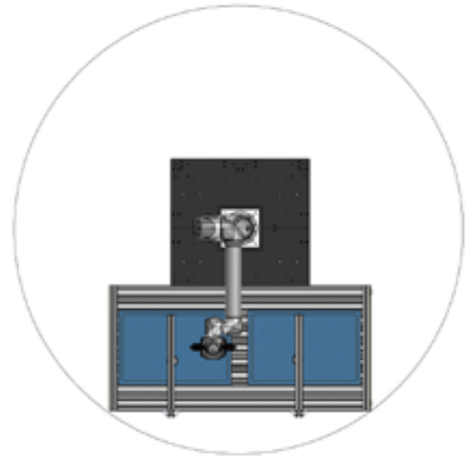
- **Productivity : 950 pieces per hour**
- **Weight of graspable objects : 5kg**
- **Size of graspable objects : 160mm**

Installation Requirements

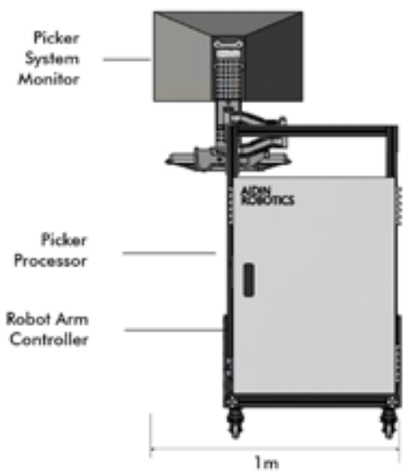
- Power : 100–240V, 40–60Hz, 2200W
- Compressed Air : 4hp+ compressor recommended

System Dimensions





Picker controller



Solution

Quadruped Robot for Industrial Facility Inspection Solution

*Under Developent

Features

This state-of-the-art mobile robot features legs that mimic human movements, enabling it to navigate various terrains such as stairs, rugged landscapes, and curved areas with ease. With its ability to inspect and scout hazardous environments, such as those involving chemicals and radioactivity, it has the potential to prevent dangerous accidents.

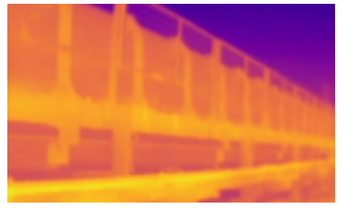
- Quadruped robot solution for **management and maintenace work** in all facilities, power plants, chemical plants and any harmful or inferior environment
- **Customize the robot function** based on modular design following **any customer's request** and easy maintenance
- Provide the customizable solution **attached with other equipment** (thermal, monitor, noise, vibration, gas)

Applications

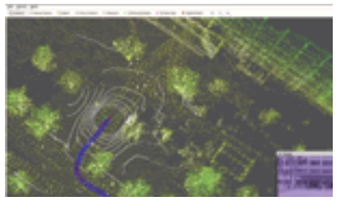
Inspecting Hazardous Facilities

Smart city Security

Thermal Inspection

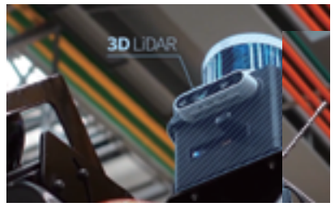


Monitoring Construction Sites



Military / Police / Firefighting

Construction and BIM



Specifications

Index	Unit	Value
Length	mm	1,300
Width	mm	650
Weight	kg	50
Max speed	m/s	1.2
Battery capacity	Wh	1,440
Operating voltage	VDC	48
Operating time (typical)	Hours	2
Operating time (standby)	Hours	6
Payload (normal)	kg	10
Payload (maximum)	kg	20
Connectivity		802.11 Dual-band WiFi, LTE
Optional Equipment		Optical Camera, Thermal Camera, Mic

AIDIN ROBOTICS

Website	www.aidinrobotics.co.kr
Facebook	www.facebook.com/aidinrobotics
Youtube	www.youtube.com/c/aidinrobotics
Email	sales@aidinrobotics.co.kr
Headquaters/ Research Institute	5F, 12-20, Simin-daero 327beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, South Korea
Factory	4F, 12-20, Simin-daero 327beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, South Korea
Phone	+82 031 360 7926

© Aidin Robotics Inc. All rights reserved worldwide / All information is subject to change without notice

24.10 UPDATED