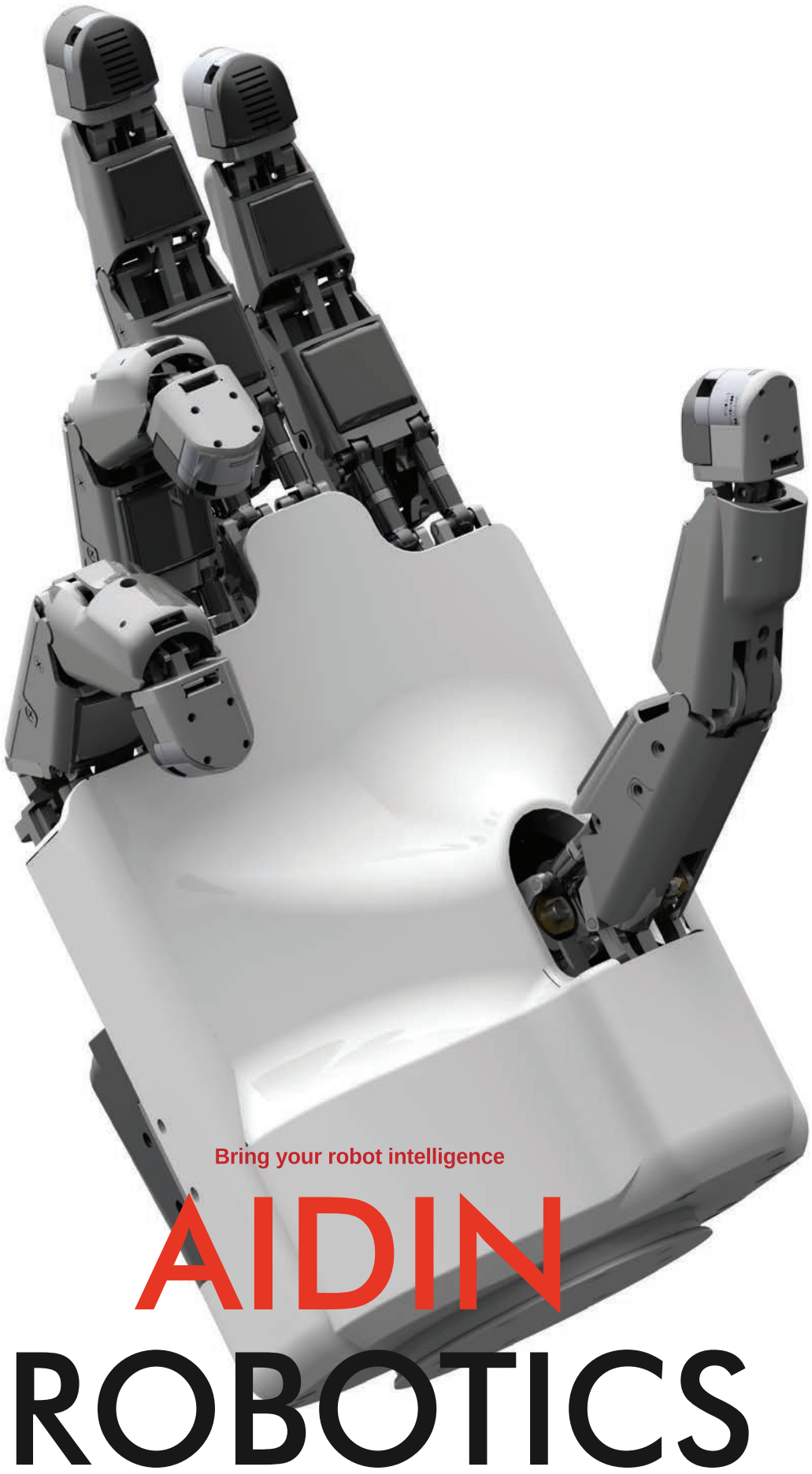
ENGLISH



Bring your robot intelligence

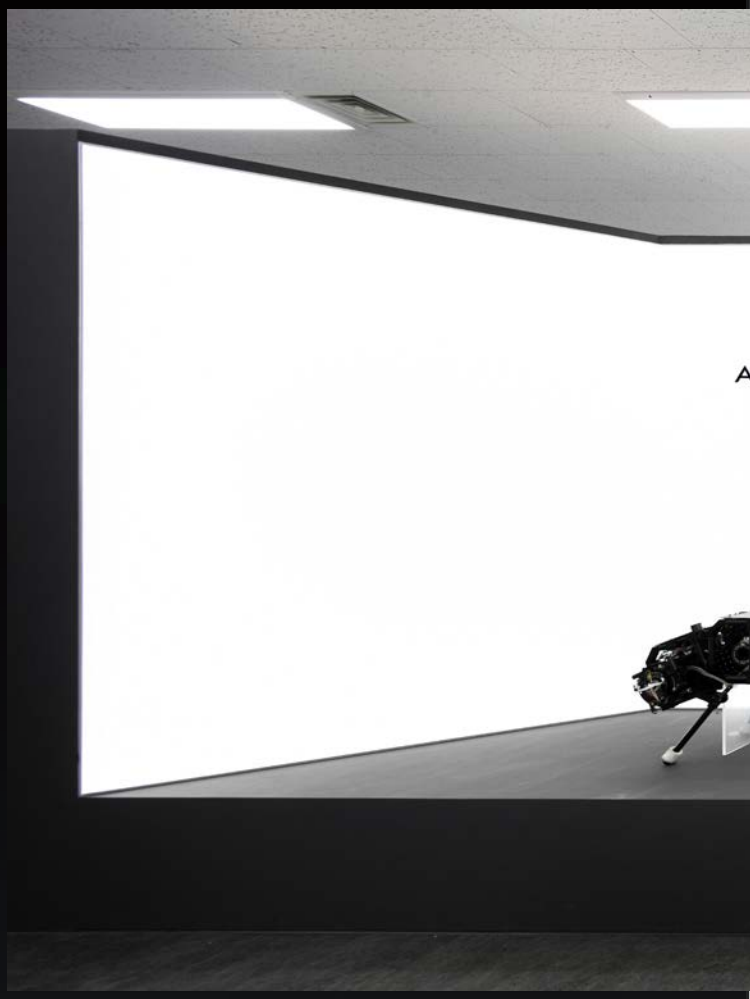
AIDIN ROBOTICS

Robotic Components I Cobot Solutions I No-code Automation

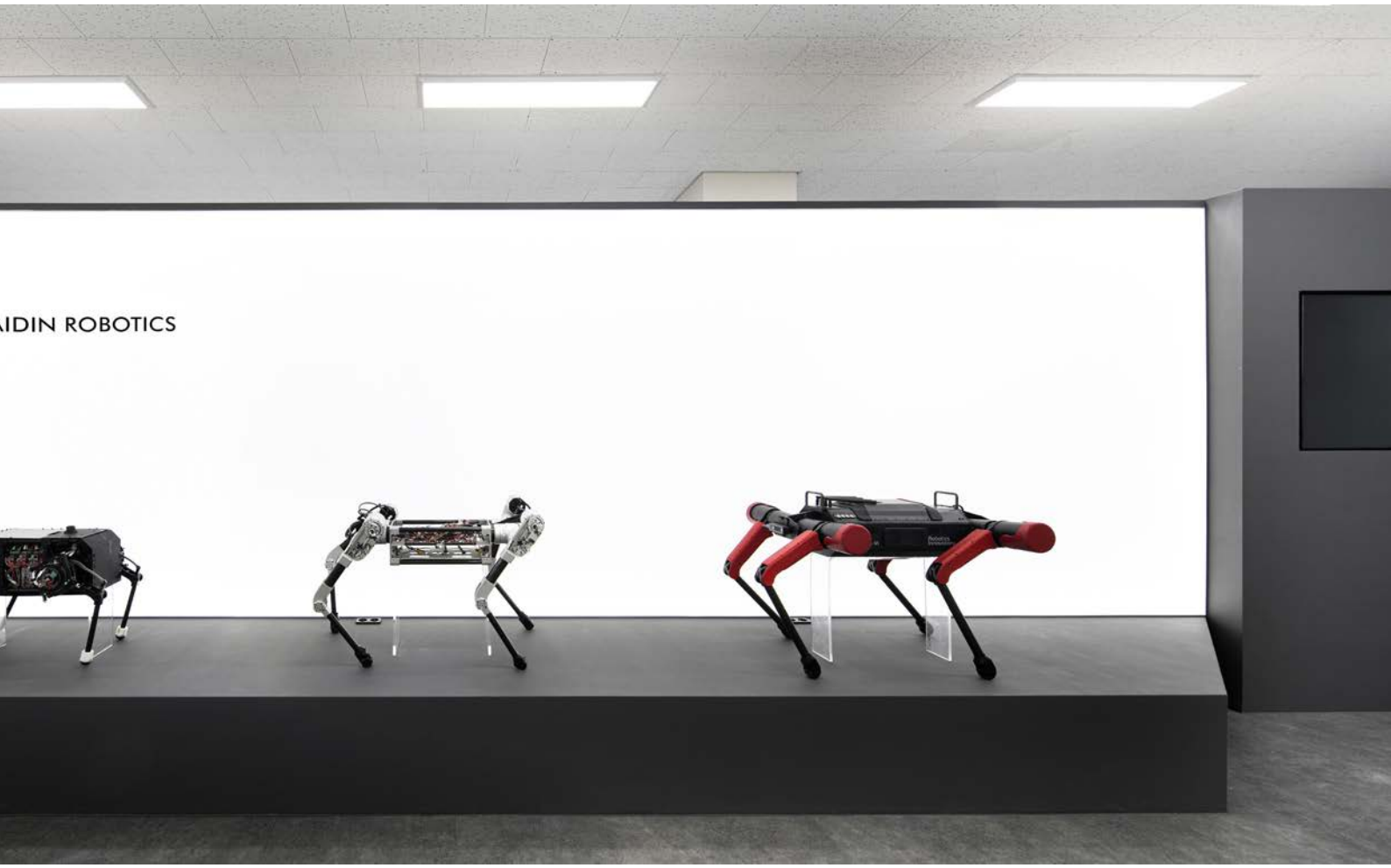
The world's leading field sensing technology

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.

AIDIN ROBOTICS



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



Bring Your Robot Intelligence

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

Products and Services:

- Multi-axis force torque sensor
- Safety sensor
- Collaborative robot solution
- Industrial solution with robotic system

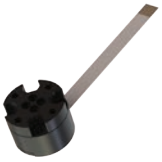
Sensor

Smart 6 axis F/T Sensor

AFT200-D80

Ultra-thin Joint Torque Sensor

ATS-Series



Miniature 6 axis F/T Sensor

AFT-Mini

Safety Cover Sensor (Prox. / Tact.)

ProxSKIN

End of Arm Tool

Gripper Module

AGM-G

Rotation Module

AGM-R

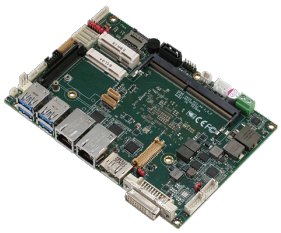
Suction Module

AGM-S

Robotic Hand

AIDIN HAND

Robot Controller



Real-time Robot Motion Controller

ARC6

Solutions

Force Control Solution for Manufacturing Automation

Co-worker

Robotic Picking Solution for Logistics

PICKER

Industrial Facility Inspection Soulution

AiDIN

Smart 6 axis F/T Sensor

Model AFT200-D80

Dimensions

80mm x 20.5mm

Applicable Robots

Universal Robots,
Doosan Robotics
Rainbow Robotics, Neuromeka,
Yaskawa, KUKA, Epson, Robostar
Other collaborative/industrial robots

Features

- Smart 6-axis force/torque sensor

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

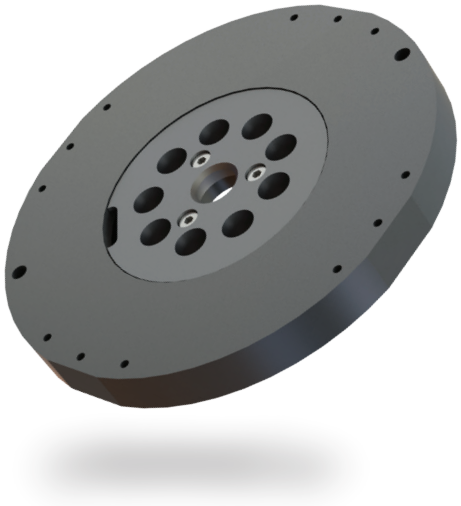
- Industrial / Collaborative robot
- Lead-thru device
- Welding, sanding, grinding, assembly operations
- Warehouse robot
- Smart Factory / Automation

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			10-70 ℃	

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

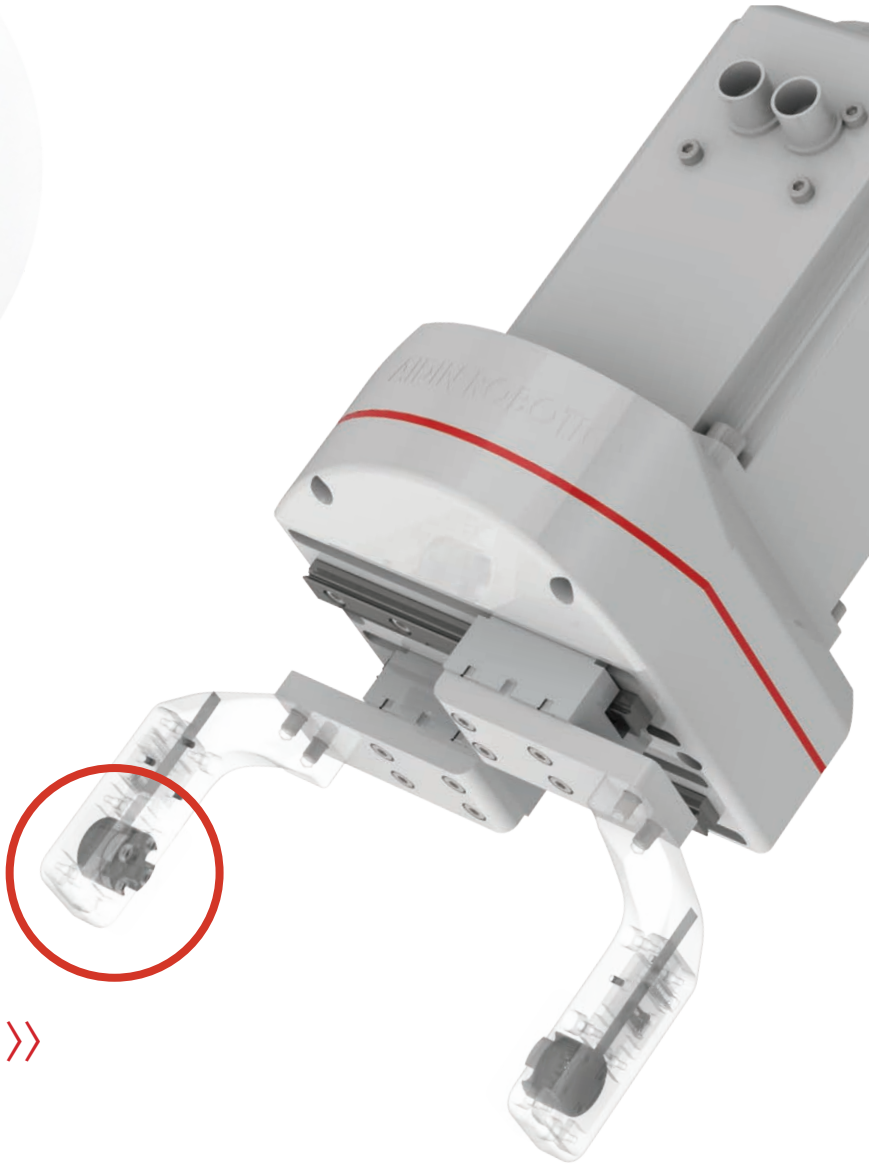
- Collaborative robot
- Wearable robot
- Medical device
- Rehabilitation robot

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



Dimensions
15mm x 10.5mm

Application Examples
Gripper

Features

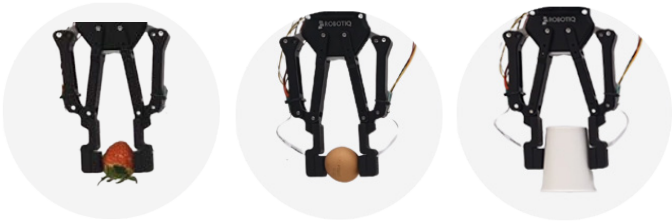
The world's smallest 6-axis force/torque sensor

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

Applications

Gripper



VR / AR device

Haptic device

Robot hand

Medical device

Specifications

Index	Unit	Value
Operating voltage	VDC	5
Max. safe excitation voltage	VDC	10
Nominal force range	N	20
Nominal torque range	Nmm	120
Limit force	N	25
Limit torque	Nmm	150
Resolution (Fxyz)	N	0.1
Resolution (Txyz)	Nmm	0.3
Sample rate	Hz	100
Dimensions	mm	D15 x H10.5
Weight	g	3.2
Temperature		10-70 ℃
Interfaces		CAN
Connector		FPC: 0.5 pitch, 8pin Length: 50, 100, 200 mm For User: CAN_H / CAN_L / VCC / GND

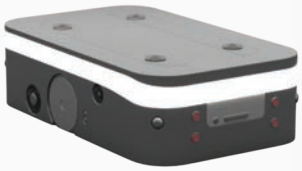
ProxSKIN

Safety Cover Sensor (Proximity / Tactile)

Model APS-Series

*Customizable design

AGV / AMR



Universal Robots
UR5, UR10

Doosan Robotics
A0912

Features

Proximity/tactile dual-mode safety cover sensor for robot with electromagnetic field sensing method

Safety cover sensor that help people and robots collaborate more safely by simply applying them to the appearance of cooperative robots or industrial robots to measure the distance between people or objects in advance of a collision

Field sensing technology enables 360-degree omnidirectional object measurement without blind spots

Enable a safer human-robot collaboration environment using flexible and soft materials

Applications

- Industrial robot / collaborative robot
- AMR / AGV
- Warehouse robot
- Industrial safety / Automation

Specifications

Index	Unit	Value
Operating voltage	VDC	6-28
Sensing range (ToF)	mm	1500
Sensing range (Field sensing)	mm	200
Sensing angle	Degree	360
Resolution	mm	10
Maximum sensing distance	mm	1500
Touch detection		Available
Material detection		Human, Metal, Wood, Plastic
Maximum sample rate	Hz	100
Thickness	mm	10-20
Operating temperature	℃	10-50
Interfaces		CAN, RS485

Modular Gripper System

Modular grippers that can be combined freely according to the application environment

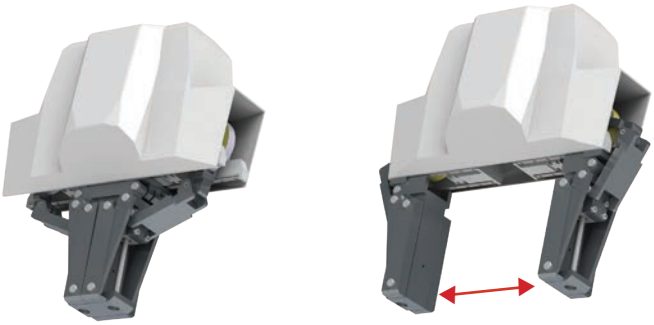
- Gripper Module
- Rotating Module
- Suction Module

Combinations

- Gripper + Suction Module
- Rotation + Suction Module
- Gripper + Suction + Rotation Module

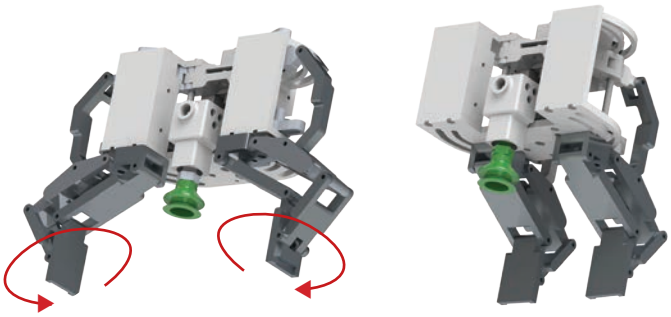
Gripper Module

- Parallel gripper
- Large range of motion 16 cm
- Payload 5kg
- Suitable for gripping general-shaped objects and assisting suction module



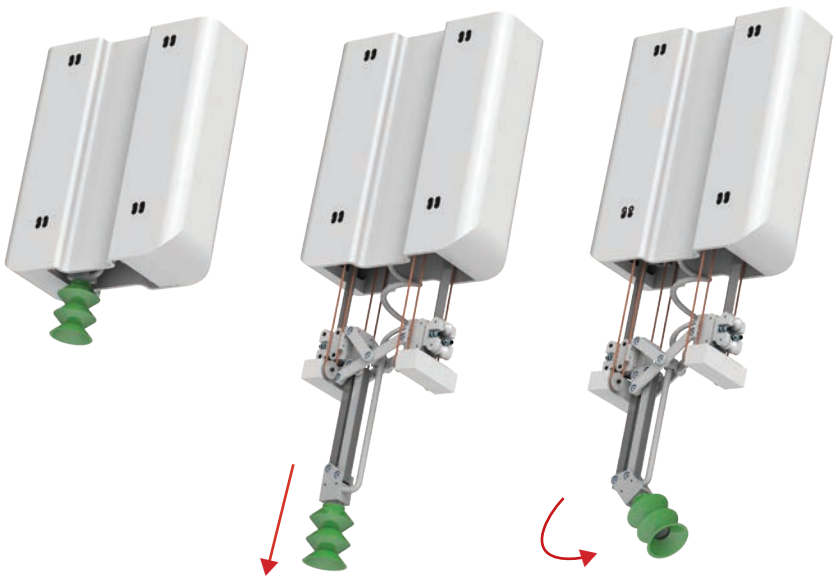
Rotation Module

- A daptive gripper
- 90-degree rotational structure
- Supports high-load shelving object picking and provides suction assistance



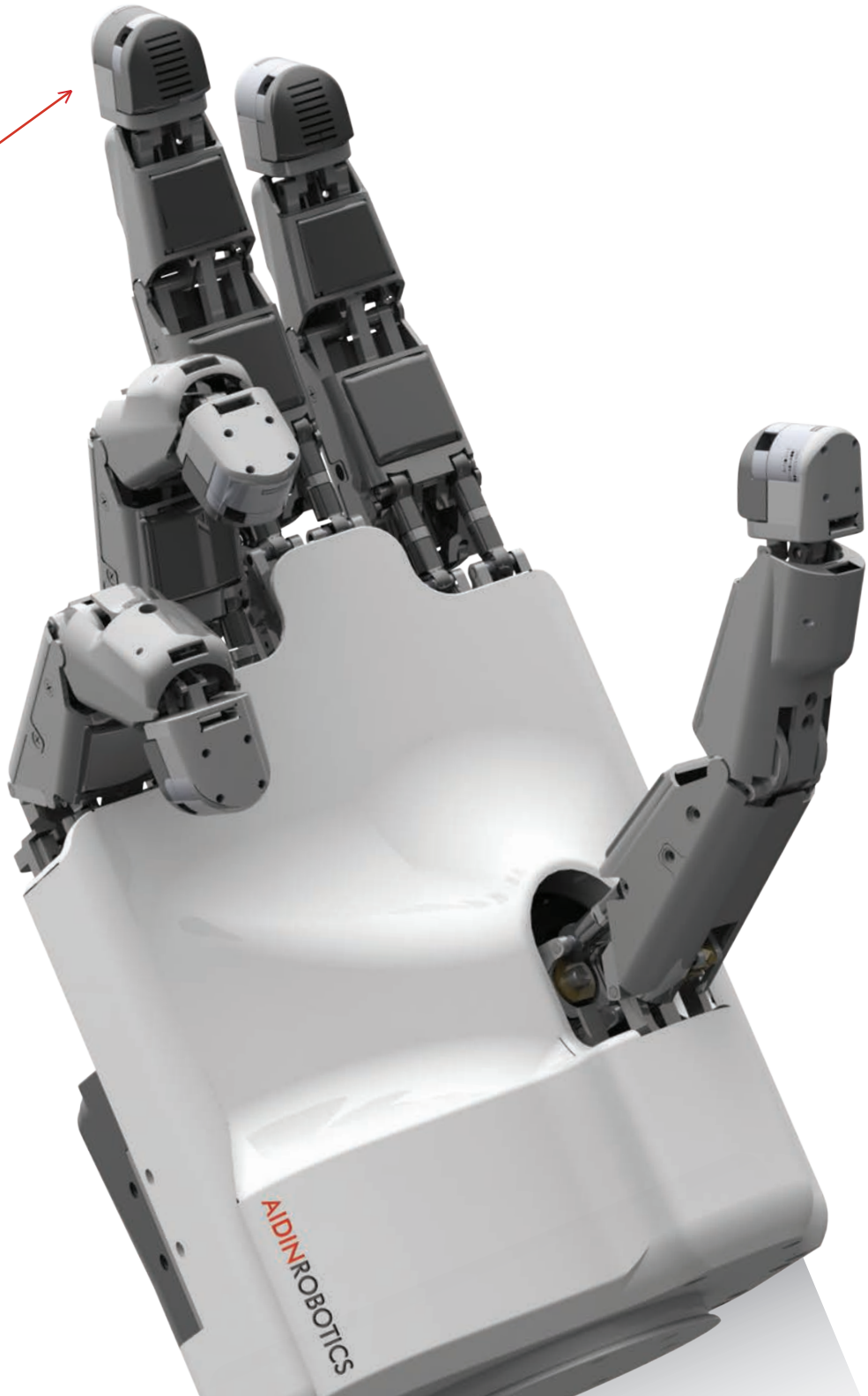
Suction Module

- Vacuum adsorption gripper
- Telescopic structure
- Response depth 20 cm
- Portable load 2 kg
- Perfectly adapts to various depths and conditions of objects with linear and rotational capabilities



AIDIN HAND

5 x AFT-Mini



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

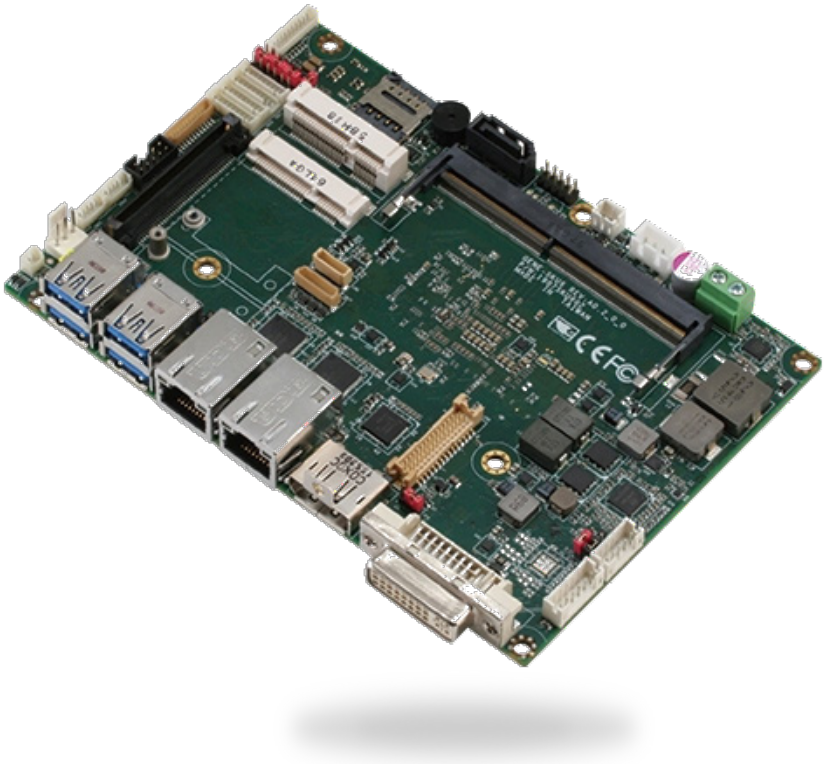
- Industrial / Collaborative robot
- Warehouse picking robot
- Home-service robot
- Prosthetic hand

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
Payload	kg	18
Size	mm	218 x 102 x 97
Weight	kg	1.1
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
- Warehous 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

- 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

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**

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.

Commercialized | Aidin's technologies

- **Productivity : 600 pieces per hour**
- **Weight of graspable objects : 5kg**
- **Size of graspable objects : 160mm**

Solution

Industrial Facility Inspection Solution

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.

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

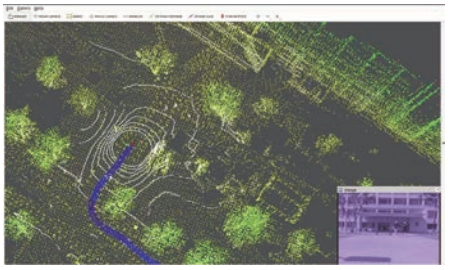
Solution

Industrial Facility Inspection Solution

Applications

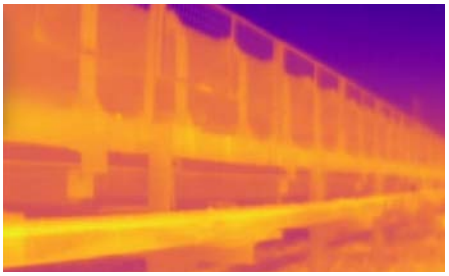
Inspecting hazardous facilities

Monitoring construction sites



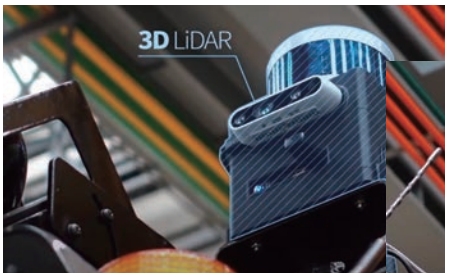
Smart city

Thermal inspection



Military/police/firefighting

Construction and BIM



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