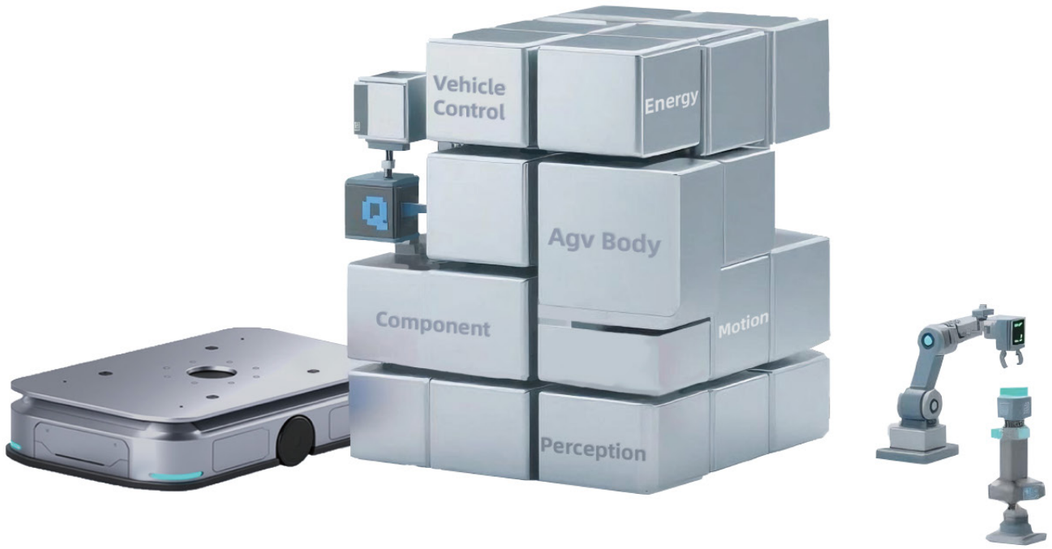
From atoms to robots: building the future, block by block



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ATOMBOTIX
AGV / AMR Core Components Catalog

Your One-Stop Robot Building Partner

AGV Body · Motion · Perception · Energy · Vehicle Control · Other Components

V1.0 | July 2025

CONTENTS

About

ATOMBOTIX

10+
Countries Serviced

30+
Mobile Robot Models Built

10+
OEM Clients Served

ATOMBOTIX—born from "Atom" and "Robotics" —delivers the fundamental building blocks for modern automation.

We believe every robot should be assembled from precise, standardized components—just as atoms combine to form molecules—enabling limitless combinations tailored to any application.

Founded by engineers from Oxford and Huazhong University, and shaped by experience at the world's top robotics companies, we bring deep technical rigor and a global perspective to the modular robotics space.

Our mission is to unlock scalable, flexible automation by redefining how mobile robots are built—from the ground up.

Core Business

- ATOMBOTIX specializes in the design, development and sourcing of modular mobile robot building solutions, utilizing global supply chain, striving to help mobile robot OEMs to build their solution effortlessly & cost effectively

Our systems are engineered for seamless integration into a wide variety of mobile robotics platforms—enabling OEMs and integrators to build, adapt, and scale with unmatched efficiency.

Each solution is built on our standardized core units, including the AGV Body, Motion, and Energy modules. These components support rapid prototyping, easy customization, and scalable integration into existing workflows—dramatically accelerating the path from concept to implementation.

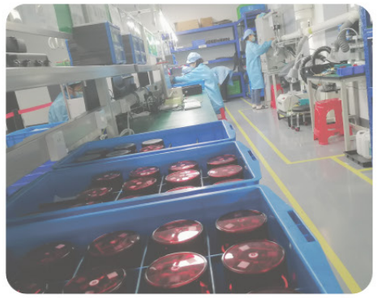
WHY CHOOSE US?

One-Stop Service: From motors, sensors, controllers to batteries and navigation modules paired with customization and integration services. By one-stop procurement and technical integration, we reduce downtime, accelerate deployment, and optimize lifecycle costs for AGV/AMR solutions.

Customized Solutions: Offering end-to-end tailored services-from hardware configuration and software algorithms to scenario implementation-based on clients' industry attributes and production needs.

Technological Innovation: Integrating cutting-edge Al and IoT technologies to achieve precise control and adaptive optimization of robotic systems.

Cost-Efficient Automation: Our AGV and AMR solutions are designed to reduce operational costs through automation of material handling, warehouse sorting, and production logistics. By minimizing labor dependency and improving resource utilization, we help clients achieve significant long-term savings.



PRODUCT CATALOG

ATOMBOTIX

01. AGV Body

Platform Style

Platform Lifter 600kg/1000kg/1500kg

Stacker Truck

Compact Stacker 1.4T/2.0T/3.0T

Counter Balance 1.5T/Outdoor Counter Balance 3.5T

Omni-Stacker 1T

Reach Stacker 1.4T/2.0T

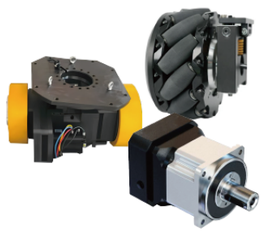
Pallet Truck

Bottom Pallet Truck 1.0T/1.6T/2.0T

Tugger

Heavy Duty Tugger 3.0T/5.0T

02. Motion



Steering Wheel Module

AB-SW-Customized Model

AB-DDS-Customized Model

AB-iDW-Customized Model

AB-DW-Customized Model

AB-HW-Customized Model

Servo Motor

DC Servo Motor/Servo Drive

Caster Wheel

AGV Driving Wheel/AGV Universal Wheel

Mecanum Wheel

Mecanum Wheel

Lifting and Rotating Mechanism

AB-LRP-Customized Model

Planetary Gearbox

AB-PGT-Customized Model

03. Energy

Contact Charging

NPB-1200

Manual Charger-1200W

CC-Compact Charger

SCC-Split-type Compact Charger

Wireless Charging Series

Wireless Charging 24&48 V

Lithium-ion Battery

Modular Lithium-ion Battery

Customized Battery-LFP 24V&48V

Low-temp. Battery

DC-DC

DC-DC Enclosed 200W

DC-DC DIN-Rail 240W

Brush Plate

Brush Plate

04. Perception

2D Lidar Series

2D NAVI PRO/MINI NAVIMINI NAVI PRO/Ranger/Ranger

3D Lidar Series

3D Ranger/Ranger Slim

Mini Navi/Mini Navi Pro

Ranger/Ranger Pro

Camera

Object Finder-HD

Object Finder-iTof

QR Scanning Camera

QR Navigator

04. Perception

RFID

AB-RFID-1S/AB-RFID-1SN

Magnetic

AB-MGS-080N /AB-MGS-160N /AB-MGS-160ND

Magnetic Sensor Bar-16&32&48&64

05. Vehicle Control

IPC

AB-MC-IPC-M20-I5/I7

06. Other Components

Audio

AB-AD100-3W/5W

Bumper

AB-BS-Customized/RC-Lxxx

LED

AB_LED01/AB-Layer Lamp/3 Color Lamp/Stroboscopic Lamp/Acousto-optic Lamp

Warning Light

Warning Light Series

Network

TL-CPE1300D

Solution:

01.

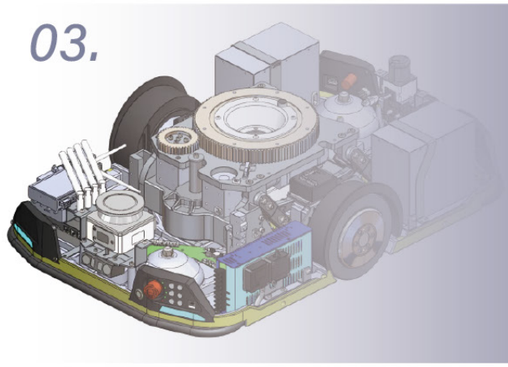
» Mobile Robot Retrofitting

Our Retrofitting & Refurbishing Service helps you transform aging or manual industrial vehicles—such as forklifts, pallet trucks, and towing tractors—into fully autonomous AGVs equipped with modern navigation, safety, and fleet-management software tools.

02.

» Customized Robot Building

Our Custom Building Service delivers tailor-made AGV solutions in just 30–90 days. With modular design and fast development, we help you meet specific industry needs while balancing speed and cost.



03.

» Mobile Robot Kit

Our Mobile Robot Kit is a full-stack solution for building factory-grade AGVs/AMRs. It includes everything—from hardware and chassis to deployment software—helping you develop, test, and deploy robots faster and with ease.

General Introduction

01 AGV BODY

We offer a full range of AGV bodies that serve as the structural foundation for various automated guided vehicles. Designed for OEMs and system integrators, our bodies are robust, modular, and easy to customize.

Each AGV body is built for durability, precision, and easy integration with navigation systems, lifting mechanisms, and control units. We offer modular interface designs, standardized mounting points, and tailored dimensions to support rapid deployment and system compatibility. Whether your application is warehouse automation, production logistics, or smart factory operations, our AGV bodies offer a reliable and flexible starting point for building high-performance AGVs.

Our product portfolio covers two main categories:

01.

Platform lifting type AGV body
designed for underride shelf-carrying operations

02.

Forklift-type AGV body
designed for underride shelf-carrying operations

Platform lifting type AGV Body

Product Introduction

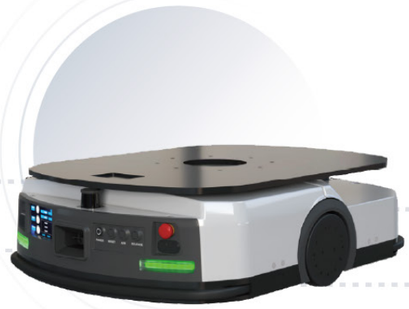
Latent-type AGV bodies are low-profile, high-maneuverability platforms designed to operate beneath racks, shelves, or trolleys. They are ideal for high-throughput material handling in warehouses and automated storage systems.

These AGV bodies form the base of shelf-carrying AGVs commonly used in goods-to-person systems and smart intralogistics.

Advantages:

Ideal for dense storage environments and mobile shelf systems

Modular architecture supports rapid development



Easily adaptable to different load forms and rack interfaces

Designed for 24/7 operation with minimal maintenance

Key Features:

- Ultra-low chassis height — (as low as 180 mm)
- Precision positioning for docking and lifting
- Preconfigured for lifting modules — (scissor, roller, or lifter platforms)
- Reserved slots for navigation sensors — (QR code, SLAM, vision)
- Lightweight yet high-strength structure for speed and stability

Latent body can be integrated into systems for e-commerce, automotive part handling, electronics manufacturing, and more.

Forklift-type AGV Body

Product Introduction

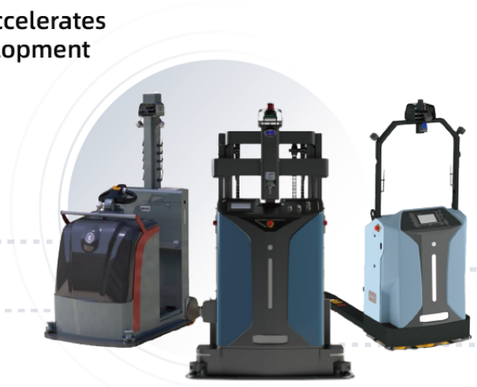
Forklift-style AGV body are designed for applications that require lifting, stacking, or towing. These bodies serve as the chassis for AGVs that mimic traditional forklifts or towing vehicles but operate autonomously in industrial environments.

We offer several subtypes based on usage:

- Stacker-type bodies, compatible with vertical masts for high-rack access
- Pallet-type bodies, optimized for low-lift pallet transport
- Towing-type bodies, with connection points for trailers or carts

Benefits:

Modular design accelerates AGV system development



Compatible with multiple lifting module brands

Suitable for indoor and semi-industrial environments

Reduces mechanical development costs for integrators

Key Features:

- Heavy-duty welded frames and high structural rigidity
- Support for different drive configurations ——— (differential, Mecanum, omnidirectional)
- Reserved installation areas for lifting columns, forks, sensors, and controllers
- Integrated cable channels and electrical interface kits
- Optional bumpers, casters, and side panels for safety and stability

These AGV bodies are widely used in warehouse logistics, manufacturing lines, and material handling systems where automated vertical lifting or towing is required.

1 Platform lifting type AGV body

Type	Platform Style		
Model	**AB-FLB-PL06**	**AB-FLB-PL10**	**AB-FLB-PL15**
Feature			
Kinematics Model	Differential drive of two Wheels		
Self Weight (Including Battery)	130 kg	180 kg	200 kg
Rated Load Capacity	600 kg	1000 Kg	1500 kg
Dimensions	950 × 650 × 250 mm	1150 × 820 × 260 (±5) mm	1150 × 820 × 260 mm
Rotation Diameter	963 mm	1199 mm	1199 mm
Chassis Ground Clearance	25 mm		
Lifting Panel Size	850 × 600 mm	1030 × 770 mm	1030 × 770 mm
Lifting Height	60 mm		
Basic Dimensions			
Rated Operating Speed, Rated load/No Load	1.5 m/s; 1.9 m/s	1.5 m/s; 2.0 m/s	1.5 m/s; 1.7 m/s
Acceleration, Rated load/No Load	0.3 m/s²; 0.6 m/s²	0.3 m/s²; 0.6 m/s²	0.3 m/s²; 0.6 m/s²
Rotation Speed, Rated load/No Load	100°/s; 200°/s	60 °/s; 100 °/s	30 °/s; 60 °/s
Motion			
Drive Motor Power	1.0 (0.5 × 2) kW	2.1 (1.05 × 2) KW	2.1 (1.05 × 2) KW
Power of Lifting Motor	400 w	750 w	750 w
Power of Rotation Motor	750 w	400 w	750 w
Drive Motor Type	Integrated Servo Wheel		
Motor Controller Communication	CAN/RS485		
Energy			
Battery Type	Lithium Iron Phosphate		
Capacity/Rated Voltage	48 V / 24 Ah	48 V /40 Ah	48 V /50 Ah
Charge-Discharge Cycle Times	1,500 times		
Rated Working Condition Endurance Time	8 h		
Charging Time After Complete Discharge	≤1.5 h		
BMS Communication Protocol	CAN/RS485		
Others			
Human-Computer Interaction Mode	Touch Screen		
Front Laser Obstacle Avoidance (Quantity/Installation Height)	1 Piece/201.5 mm	1 piece/198.5 mm	1 piece/198.5 mm
3D Vision Obstacle Avoidance/ Rear Ultrasonic	Optional		
E-Stop Buttons/Bumper Pressure Sensor	Included	2 pieces (1 front, 1 rear)	
Acoustic-Optic Alarm	Standard		
Chassis Damping Mode	Two-stage Floating Chassis		
Climbing Capacity	≤5%/2.8°	≤5%/3°	
Step Capacity	≤5 mm		
Gutter Crossing Capacity	≤30 mm		
Communication	Supports dual-band Wi-Fi (2.4GHz & 5.0GHz)		
Humidity	Relative Humidity: 10%-90% (without condensation)		
Temperature	Working Area: -10°C-45°C Charging Area: 0°C-45°C	Working Area: -10°C-40°C Charging Area: 0°C-40°C	

Note: Customization available on request.

2 Forklift-type AGV body

Type	Stacker Truck								
Model	**AB-FLB-CS14(24V)**	**AB-FLB-CS14(48V)**	**AB-FLB-CS20**	**AB-FLB-CS30**	**AB-FLB-OS10**	**AB-FLB-RS14**	**AB-FLB-RS20 II**	**AB-FLB-RS20 III**	**AB-FLB-CB35-Outdoor**
Feature									
Compatible Navigation	2D&3D SLAM/VSLAM/Natural Feature/RTK/Laser Reflector								
Kinematic Model	Single Steering Wheel								
Rated Load Capacity	1400 kg		2000 kg	3000 kg	1000 kg	1400 kg	2000 kg		3500 kg
Lifting Height	1600 mm		3000 mm	3000 mm	1600 mm	1600 mm	500 mm		3300 mm
Self Weight (Including Battery)	680 kg		1200 kg	1860 kg	770 kg	1890 kg	/	/	5380 kg
Basic Dimensions									
Overall Dimensions (l×w×h)	1637 × 985 × 2035		1896 × 1121 × 2235	2073 × 1348 × 2500	1644 × 980 × 2035	1881 × 1184 × 2120	2197 × 1161 × 2180	2287 × 1161 × 2180	3510× (1300/1200) ×2120
Fork Size (l/e/s)	1150/180/55 mm		1150/180/75 mm	1150/240/70 mm	1150/210/60 mm	1050/120/40 mm	1150/180/55 mm		1070/125/50 mm
Fork Outer Width	680 mm (Customization Optional)		680 mm	680 mm	680 mm	620 mm	680 mm		1100 mm
Min. Turning Radius (Wa)	1180 mm		1440 mm	1750 mm	1433 mm	1481 mm	1736 mm	1826 mm	2025 mm
Min. Right Angle Stacking Aisle Width	1800 mm + Safety Margin		2060 mm + Safety Margin	/	1644 mm + Safety Margin	2033 mm + Safety Margin	2355 mm + Safety Margin	2455 mm + Safety Margin	/
Driving Speed,Full load/Empty Load	5/5 km/h		5/5 km/h	5/6 km/h	5/5 km/h	5/5 km/h	5/5 km/h		15/15 km/h
Lifting Speed,Full Load/Empty Load	115/170 mm/s		90/120 mm/s	115/170 mm/s	115/170 mm/s	115/170 mm/s	90/120 mm/s		/
Descent Speed,Full load/Empty load	160/125 mm/s		120/110 mm/s	160/125 mm/s	160/125 mm/s	114/114 mm/s	120/110 mm/s		/
Climbing Performance,Full Load/Empty Load	3%/5%		3%/5%	3%/5%	3%/5%	3%/5%	5%/8%		14% / 15%
Driving Brake Mode	Electromagnetic Braking								
Motion									
Drive Motor Power	1.25 kW	1.5 kW	1.5 kW	2.2 kW	1.5 kW	2.2 kW	1.5 kW		AC 6×2 kW
Drive Motor Type	Asynchronous AC Motor								
Steering Motor Type	48 V DC servo motor								
Lifting Mechanism	Hydraulic Control								
Motor Controller Communication	CAN/RS485								
Energy									
Battery Type	Lithium Iron Phosphate								
Battery Voltage/Rated Capacity	24 V / 210Ah	48 V / 105 Ah	48 V / 210 Ah	48 V / 210 Ah	48 V / 105 Ah	24 V / 210 Ah	24 V / 210Ah		80 V / 460 Ah
BMS Communication Protocol	CAN/RS485								
Charging Type	Contact Charging								
Charging Speed	< 2h								
Perception									
Navigation Sensor	Bracket Included								
Object Detection Lidar	Optional								
Encoders	Optional								
Fork Tip Sensor	Bracket Included								
Pallet Detection Camera	Space Included								
Bumper Pressure Sensor	Included								
Others									
Communication	Dual-band Wi-Fi (2.4GHz & 5.0GHz)								
HMI	7 Inch HMI Included								
Speaker/Light Beam/E-Stop Buttons/Status Light	Included								

Note: Customization available on request.

2 Forklift-type AGV body





	Pallet Truck			Tugger	
Model	**AB-FLB-PT10**	**AB-FLB-PT16**	**AB-FLB-PT20**	**AB-FLB-TG30**	**AB-FLB-TG50**
Feature					
Compatible Navigation	2D&3D SLAM/VSLAM/Natural Feature/RTK/Laser Reflector				
Kinematic Model	Single Steering Wheel				
Rated Load Capacity	1000 kg	1600 kg	2000 kg	3000 kg	5000 kg
Lifting Height	200 mm	120 mm	180 mm	/	/
Self Weight (Including Battery)	230 kg	450 kg	520 kg	/	/
Basic Dimensions					
Overall Dimensions (l×w×h)	1464 × 851 × 564	1710 × 870 × 1900	1832 × 873 × 2035	1720 × 1060 × 1966.5	1720 × 1060 × 1966.5
Fork Size (l/e/s)	1120/185/65 mm	60/173/1220 mm	1200/160/70 mm	/	/
Fork Outer Width	680 mm	540/680 mm	660 mm	/	/
Min. Turning Radius (Wa)	979 mm	1260 mm	1428 mm	1422 mm	1422 mm
Min. Right Angle Stacking Aisle Width	1581 mm + Safety Margin	/	1930 mm + Safety Margin	/	/
Driving Speed,Full load/Empty Load	4/5 km/h	4.5/5.4 km/h	5/5 km/h	5/6 km/h	5/6 km/h
Lifting Speed, Full Load/Empty Load	26/26 mm/s	30/48 mm/s	30/35 mm/s	600	1000
Descent Speed, Full load/Empty load	26/26 mm/s	40/28 mm/s	42/30 mm/s	2400	3200
Climbing Performance, Full Load/Empty Load	3%/3%	6%/8%	3%/5%	5%/8%	5%/8%
Driving Brake Mode	Motor Reverse Braking	Electromagnetic Braking		Electromagnetic Braking	Electromagnetic Braking
Motion					
Drive Motor Power	0.8 (0.4 × 2) kW	1 kW	1.25 kW	2.2 kW	3 kW
Drive Motor Type	24 V Asynchronous AC motor			24 V Asynchronous AC motor	
Steering Motor Type	48 V DC servo motor			48 V DC servo motor	
Lifting Mechanism	48 V DC Servo			/	
Motor Controller Communication	CAN/RS485			CAN/RS485	
Energy					
Battery Type	Lithium Iron Phosphate			Lithium Iron Phosphate	
Battery Voltage/Rated Capacity	48 V / 40 Ah			24 V / 210 Ah	
BMS Communication Protocol	CAN			CAN	
Charging Type	Contact Charging			Contact Charging	
Charging Speed	< 2h			< 2h	
Perception					
Navigation Sensor	Bracket Included			Bracket Included	
Object Detection Lidar	Optional			Optional	
Encoders	Optional			Optional	
Fork Tip Sensor	Bracket Included			Bracket Included	
Pallet Detection Camera	Space Included			Space Included	
Bumper Pressure Sensor	Included			Included	
Others					
Communication	Dual-band Wi-Fi			Dual-band Wi-Fi	
HMI	7 Inch HMI Included			7 Inch HMI Included	
Speaker/Light Beam/E-Stop Buttons/Status Light	Included			Included	

Note: Customization available on request.

02 Motion System

Comprehensive Portfolio

Covers wheel modules, actuators, transmission units, and lifting mechanisms, providing a one-stop solution for robotic mobility

Modularity & Scalability

Flexible architecture allows easy customization and adaptation to different payloads, sizes, and application scenarios

Versatile Motion Capabilities

Supports differential drive, steering wheel, Mecanum, and omnidirectional configurations to meet diverse mobility needs

Future-Ready Platform

Provides the foundation for next-generation AGVs, AMRs, and robotics, enabling innovation in logistics, manufacturing, and beyond

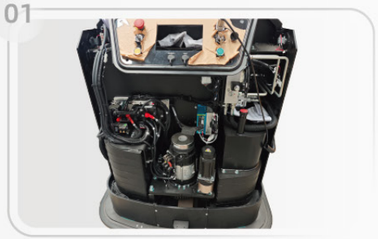
System Categories

MOTION:

- Integrated Motion Modules
  - Steering Wheel Module
  - Space Differential Steering Wheel Module
  - Integrated Differential Wheel Module
  - Differential Wheel Module
  - Hub Wheel Module
- Actuators
  - Servo Motor
  - Servo Driver
- Wheels
  - Traction Wheel
  - Universal Wheel
  - Mecanum Wheel
- Platforms
  - Lifting and Rotating Mechanism
- Transmission
  - Planetary Gearbox

Application Examples

01



Single steering wheel chassis model

02

Mecanum wheels integrated cobots

03

Motor mounted on differential wheel

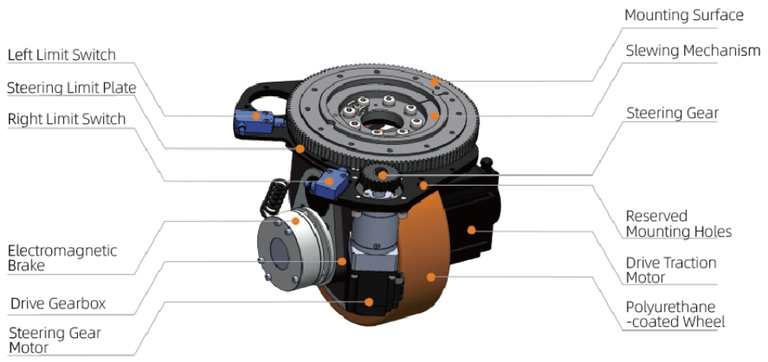
MOTION

Integrated Motion Module

General Introduction

MOTION

AB-SW-Customized Model



The AB-SW-Customized Model is an integrated motion solution designed for mobile robots such as AGVs and AMRs in industrial environments. It combines a drive motor, steering motor, precision gearbox, and encoder feedback system into a compact and modular assembly, optimized for high performance and flexible mobility.

This series supports a wide range of configurations, offering various wheel diameters, gear ratios, motor voltages, and encoder types to meet different application needs.

Type	Model	Specification					Drive Motor		Steering Motor		
		Voltage (V)	Payload (kg)	Wheel Diameter (mm)	Height (mm)	Weight (kg)	Power (kW)	Nominal Torque (N·m)	Power (kW)	Nominal Torque (N·m)	Turning
	AB-SW-D150-P0.75-C500-V	24/48	500	150	413.5	25	0.75	38	0.2	68	±180°
	AB-SW-D230-P3.0-C1500-V	48	1500	230	508.5	80	3	177.65/218.03	0.4	334.56	±130°
	AB-SW-D300-P4.0/5.0-C2000-V	48	2000	300	768	95	4.0/5.0	182.33/364.65	0.75	533.27	±180°
	AB-SW-D105-P0.4-C300	48	300	105	155	17.5	0.4	34.8	0.1	77.11	±120°
	AB-SW-D125-P0.4-C350	48	350	125	175	17.5	0.4	26.11/34.82	0.1	77.11	±120°
	AB-SW-D150-P0.75-C600	48	600	150	173	21	0.75	40.63/60.01	0.1	67.32	±120°
	AB-SW-D150-P1.0-C600	48	600	150	173	21	1	54.40/87.04	0.1	67.32	±120°
	AB-SW-D160-P0.4-C350	24/48	350	160	194	21	0.4	21.59/34.54	0.2	34.27	±141°
	AB-SW-D160-P0.75-C800	24/48	800	160	203	21	0.75	65.01	0.1	72.22	±120°
	AB-SW-D160-P1.0-C1000	48	1000	160	203	21	1	54.40/87.04	0.1	72.22	±120°
	AB-SW-D150-P0.4-C600	48	600	150	173	21	0.4	21.59/34.54	0.1	29.92	±120°
	AB-SW-D180-P1.5-C1000	48	1000	180	245	25	1.5	97.38	0.2	72.22	±120°
	AB-SW-D200-P0.75-C1000	48	1000	200	265	43	0.75	102	0.2	144.43	±120°
	AB-SW-D200-P1.0-C1500	48	1500	200	265	43	1	136	0.4	239.9	±120°
	AB-SW-D200-P1.0-C1000	48	1000	200	265	43	1	97.30/129.74	0.2	288.86	±120°
	AB-SW-D200-P1.5-C1500	48	1500	200	265	43	1.5	129.74	0.4	239.9	±120°
	AB-SW-D200-P3.0-C1500	48	1500	200	265	43	3	193.8	0.4	239.9	±120°
	AB-SW-D250-P1.0-C1000	24/48	1000	250	300	43	1	65.28-129.74	0.4/0.2	119.95 - 288.86	±120°
	AB-SW-D250-P1.5-C1500	48	1500	250	300	43	1.5	97.31-129.74	0.4	239.9	±120°
	AB-SW-D250-P3.0-C1500	48	1500	250	300	48	3	193.80-367.20	0.4/0.2	119.95 - 288.86	±120°
	AB-SW-D280-P3.0-C3000	48	3000	280	358	80	3	88.83-177.65	0.75	497.72	±120°
	AB-SW-D300-P3.0-C3000	48	3000	300	386	80	3	323	0.75	497.72	±120°
	AB-SW-D300-P4.0/5.0-C3500	48	3500	300	385	95	4.0/5.0	994.5	1	666.4	±120°
	AB-SW-D410-P4.3-C4500	48	4500	410	525	200	4.3	1606.50/2295.00	1	2040	±110°
	AB-SW-D410-P5.7-C4500	48	4500	410	525	200	5.7	1606.50/2295.00	1	2040	±110°
	AB-SW-D500-P5.5-C6000	48	6000	500	616	350	5.5	2142	1.5/3	1508.27 - 17212.50	±120°
	AB-SW-D500-P7.5-C6000/10000	48	6000/10000	500	616	350	7.5	4896	1.5/3	1508.27- 17212.50	±120°
	AB-SW-D550-P7.5-C15000	96	15000	550	690	450	7.5	4896	3	4562.38	±120°
	AB-SW-D550-P20-C15000	96	15000	550	690	450	20	3332	3	4562.38	±120°

MOTION

Integrated Motion Module

General Introduction

MOTION

AB-DDS-Customized Model

Key Features

Simplified Differential Architecture
Achieves forward, reverse, and turning motion using only two independently driven wheels—ideal for compact chassis designs

Integrated Motion Unit
Combines servo motors, high-torque gearboxes, encoders, and optional support wheels into one modular system

High Payload Capability
Supports payloads ranging from 400 kg to 10,000 kg, with torque-optimized motor and reducer combinations

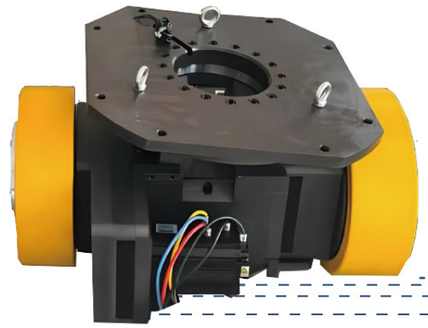
Precision Feedback Control
Built-in encoders enable closed-loop speed and direction control; supports both incremental and absolute types

Optimized for Indoor AGVs
Designed for smooth operation on flat surfaces, offering reliable performance in logistics, warehousing, and manufacturing settings

Flexible Configuration Options
Available with multiple wheel diameters (85-400 mm), motor voltages, encoder protocols, and communication interfaces such as CANopen or RS485

The AB-DDS-Customized Model is a compact and cost-effective motion platform designed for AGVs and AMRs operating in indoor industrial environments. Using a differential drive mechanism, it enables precise linear and rotational movement by independently controlling the speed and direction of two drive wheels—eliminating the need for complex steering components.

Engineered for Modern AGV & AMR Platforms:



Rated Voltage: 24/48V

Encoder:
Supports Incremental Absolute/Safety

Communication Method:
CAN(EtherCAT/RS485 Optional)

Applicable Scenarios:
Forklift Stacker, Pallet Truck, Lifting AMR/AGV, Platform AMR/AGV, Heavy Duty AGV, Elevated Work Platform, etc.

Parameter List

Model	Specification				Drive Motor	
	Voltage	Payload	Wheel Diameter	Height	Power	Nominal Torque
AB-DDS-D75-P0.4-C400	48 V	400 kg	75 mm	95 mm	0.4 kW	6.477
AB-DDS-D85-P0.2-C450	48 V	450 kg	85 mm	107.2 mm	0.2 kW	4.08
AB-DDS-D170-P0.75-C1000	48 V	1000 kg	170 mm	247 mm	0.75 kW	48.552
AB-DDS-D205-P0.75-C1000	48 V	1000 kg	205 mm	264.5 mm	0.75 kW	64.736
AB-DDS-D210-P1.5-C2000	48 V	2000 kg	210 mm	260 mm	1.5 kW	97.308
AB-DDS-D240-P1.5-C2000	48 V	2000 kg	240 mm	265 mm	1.5 kW	97.92
AB-DDS-D300-P3.0-C3000	48 V	3000 kg	300 mm	382.5 mm	3.0 kW	323
AB-DDS-D300-P2.0-C6000	48 V	6000 kg	300 mm	354.5 mm	2.0 kW	299.2
AB-DDS-D400-P3.0-C10000	48 V	10000 kg	400 mm	482 mm	3.0 kW	972.4
AB-DDS-D500-P4.2-C16000	48 V	16000 kg	500 mm	559 mm	4.2 kW	1836

MOTION

Integrated Motion Module

General Introduction

AB-iDW-Customized Model

The IWMC Integrated Servo Wheel is an all-in-one integrated servo wheel solution engineered for mobile robots, AGVs, and AMRs requiring compact design and high dynamic performance.

Model		AB-iDW-D150-V3.9-C100-■	AB-iDW-D165-V1.9-C300-■	AB-iDW-D180-V2.14-C500-■	AB-iDW-D180-V1.57-C700-■	AB-iDW-D180-V1.57-C750-■	AB-iDW-D180-V1.18-C·1000-■
Power Supply	Main Power Supply	24VDC – 60VDC					
	Logic Power Supply	/	24VDC				
Rated Linear Speed (m/s)		3.9	1.9	2.14	1.57	1.57	1.18
Rated Torque Tn (Nm)		3.6	21	40	54	60	80
Peak Torque Tn (Nm)		10.9	60	99	150	150	200
Tire Diameter (mm)		150	165	180	180	180	180
Tire Width (mm)		40	39.5	50	50	50	50
Tire Material		Polyurethane (Optional)					
Tire Hardness Rating		73 A	85 A	90 A	93 A ± 2		
Dynamic Braking		External braking resistor required (depending on operating conditions, mainly used in rapid start-stop scenarios)					
Dynamic Braking Voltage Absorption Point		None	DC63 V ± 2 V				
Overvoltage Alarm Voltage		DC68 V ± 2 V					
Undervoltage Alarm Voltage		DC18 V ± 2 V					
Input Specifications		2 digital inputs / Common COMI terminal / High level: 12.5-30 VDC / Low level: 0-5 VDC / Max. frequency: 1 kHz / Input impedance: 5 kΩ					
Output Specifications		1 digital output, common COMO terminal / Max. output current: 100 mA					
Brake		Built-in Brake and Control Circuit					
Forced Brake Release Interface		One forced brake release interface, to be used only when the servo wheel has no power input					
RS485 Debug Port		Maximum supported baud rate: 115.2 Kbps					
CAN BUS		Maximum baud rate: 1 Mbps; supports communication with controllers via CANopen protocol.					
Drive Current	Max. Continuous Output	7 A	16 A	26 A	25 A	27 A	27 A
	Peak Current (PEAK)	26 Ap	64 AP	100 Ap(<2s)	100 Ap(<2s)	100 Ap(<2s)	100 Ap(<2s)
Motor	Rated Speed nN (rpm)	3000	2000	2500	2500	2500	2500
	Rated Torque Tn (Nm)	0.64	2.4	4	4	4.4	4.4
	Brake Holding Torque T	2	4	4	4	4	4
Noise		/	<65 dB				
Cooling Method		/	Natural Cooling with Vehicle-Assisted Heat Dissipation				
Operating Environment	Operating Temperature	0 - 40 °C					
	Storage Temperature	-20 - 60 °C					
	Humidity (Non-condensing)	Below 90% RH					
	IP Ratings	IP54					
	Altitude	Rated operating altitude is below 1000 m. For operating altitudes above 1000 m, the power rating must be derated by 1.5% for every 100 m increase. The maximum operating altitude is 2000 m					
	Atmospheric Pressure	86 kpa - 106 kpa					

Note: ■ = B: With Brake

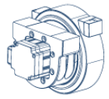
MOTION

Integrated Motion Module

General Introduction

MOTION

AB-DW-Customized Model

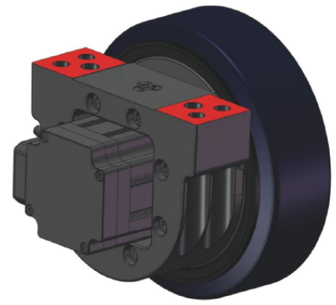


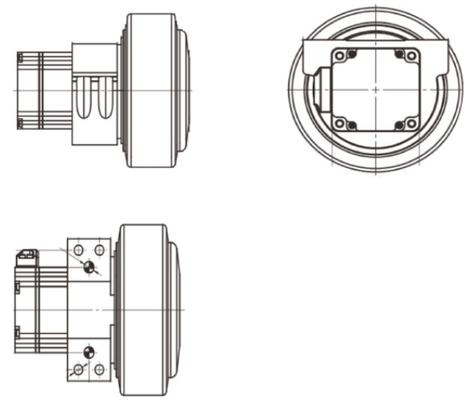
Key Features

- **Integrated Drive Wheel**
  Motor, reducer and wheel combined in one compact unit
- **Independent Wheel Control**
  Enables differential steering for agile, precise navigation
- **High Load Capacity**
  Supports payloads up to 1500 kg (two-wheel system)
- **Compact Modular Design**
  Simplifies chassis integration and saves installation space
- **Quiet and Energy-Efficient**
  Optimized for low-noise, smooth operation with minimal energy consumption.
- **Multiple Options**
  Various diameters, power ratings and speed configurations to meet different application needs

The AB-DW-Customized Model is a high-performance drive wheel designed for mobile robotics, AGVs and other autonomous platforms. Each wheel integrates a motor, planetary reducer and wheel assembly into a compact unit, enabling precise and smooth maneuvering through independent control of left and right wheels.

The DW Series provides multiple sizes and load capacities to suit a wide range of applications, from light-duty service robots to heavy industrial vehicles.





Typical Model	Specification			Driver Motor				Reducer
	Payload(2 sets) (kg)	Wheel Diameter (mm)	Speed (m/s)	Voltage (V)	Motor Power (W)	Motor Speed (RPM)	Torque (N·m)	Ratio
AB-DW-D120-P0.4-C800	800	120	1.15±0.01	48	400	3000	1.27	16
AB-DW-D140-P0.4-C700	700	140	1.35±0.01	48	400	3000	1.27	16
AB-DW-D150-P0.4-C650	650	150	1.45±0.01	48	400	3000	1.27	16
AB-DW-D150-P0.75-C1200	1200	150	1.45±0.01	48	750	3000	2.39	16
AB-DW-D160-P0.4-C600	600	160	1.55±0.01	48	400	3000	1.27	16
AB-DW-D160-P0.75-C1100	1100	160	1.55±0.01	48	750	3000	2.39	16
AB-DW-D180-P0.4-C500	500	180	1.75±0.01	48	400	3000	1.27	16
AB-DW-D180-P0.75-C1000	1000	180	1.75±0.01	48	750	3000	2.39	16
AB-DW-D200-P0.4-C450	450	200	1.95±0.01	48	400	3000	1.27	16
AB-DW-D200-P0.75-C900	900	200	1.95±0.01	48	750	3000	2.39	16
AB-DW-D220-P1.5-C1500	1500	220	2.15±0.01	48	1500	3000	4.77	16
AB-DW-D250-P1.5-C1500	1500	250	2.45±0.01	48	1500	3000	4.77	16

Note1: Reducer Ratio: 16/20/25/28/35/40/50/70, customied
Note2: Brake(optional)—With/Without
Note3: Encoder(optional)—Magnetic Encoder; Multi-turn Magnetic Absolute Encoder; 2500 P/R Optical Encoder; 2500 P/R Incremental Magnetic Encoder
Note4: Max.Payload—4000kg(Wheel Diameter—220mm, Reducer Ratio—70, Max.speed—0.5±0.01m/s)

MOTION

Integrated Motion Module

General Introduction

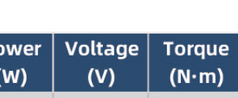
AB-HW-Customized Model

Key Features

- **Compact, Space-Saving Design**
  Available in 107–388 mm wheel sizes—ideal for installation in confined mobile systems
- **Payload Capacity**
  Supports loads ranging from 60 kg up to 150 kg, depending on wheel size and power rating
- **Torque Output**
  Delivers torque from 2 Nm to 20 Nm across the product line
- **High Integration & Responsiveness**
  Direct-drive architecture integrates electrical and mechanical parts, offering fast torque response and agile motion—perfect for dynamic robot behavior
- **Cost-Effective & Easy to deploy**
  Simplified mechanical structure reduces both manufacturing and maintenance costs. The plug-and-play design accelerates assembly and deployment
- **Ideal for Service Robots**
  Well-suited to delivery, cleaning, inspection, and sorting robots, especially in environments such as restaurants, hospitals, offices, and factory floors

The hubwheel motor is a highly integrated drive solution that combines the motor, gearbox, and sensor modules directly within the wheel. It enables direct drive for Service Robot systems, offering compact design, fast response, easy installation, and low maintenance. Widely used in AGVs, AMRs (Autonomous Mobile Robots), and intelligent logistics platforms, hub motors significantly enhance system efficiency and reliability.

Integrated hub motor for Service Robot precise drive



Model	Wheel Diameter (mm)	Payload (kg)	Power (W)	Voltage (V)	Torque (N·m)	Encoder	Rated Speed (RPM)	Weight (kg)
AB-HW-D107-P0.1-C50	107	50	100	24	2	1024/2500/4096 Lines, Absolute Value	450	1.5
AB-HW-D128-P0.2-C150	128	150	200	24	5	1024 Lines	300	3
AB-HW-D130-P0.1-C30	130	30	100	24	3	1024/2500/4096 Lines, Absolute Value	270	2
AB-HW-D139-P0.15-C30	139	30	150	24	3	1024 Lines	270	2
AB-HW-D170-P0.25-C75	170	75	250	24	6.5	1024/2500/4096 Lines, Absolute Value	200	3
AB-HW-D200-P0.25-C50	200	50	250	24	4	1024/2500/4096 Lines, Absolute Value	500	3.5
AB-HW-D200-P0.4-C150	200	150	400	48	20	1024/2500/4096 Lines, Absolute Value	150	8.5
AB-HW-D239-P0.4-C150	239	150	400	48	20	1024/2500/4097 Lines, Absolute Value	150	9
AB-HW-D266-P0.4-C150	266	150	400	48	20	1024/2500/4098 Lines, Absolute Value	150	9.5
AB-HW-D337-P0.4-C150	337	150	400	48	17	1024/2500/4099 Lines, Absolute Value	150	9.5
AB-HW-D358-P0.4-C150	358	150	400	48	17	1024/2500/4100 Lines, Absolute Value	150	9.6
AB-HW-D388-P0.4-C150	388	150	400	48	17	1024/2500/4101 Lines, Absolute Value	150	9.7

MOTION

Actuators

1 Servo Motor

2 DC Servo Drive

Servo Motor

The **Servo Motor** is a compact and intelligent DC servo motor solution designed for high-performance mobile and embedded applications. Featuring integrated driver, motor, encoder, and optional brake, this all-in-one unit simplifies system design while providing precise torque, speed, and position control.

Model	Flange Size (mm)	Rated Power Pn(W)	Rated Torque Tn(Nm)	Rated Current In(A)	Rated Speed nN(rpm)
SMC40S-0005-30■□K	40x40	50	0.16	1.5	3000
SMC40S-0010-30■□K		100	0.32	3.2	
SMC60S-0020-30■□K	60x60	200	0.64	5.7	
SMC60S-0040-30■□K		400	1.27	10.6	
SMC60S-0060-30■□K		600	1.91	16.5	
SMK60S-0020-30■□K		200	0.64	5.7	
SMK60S-0040-30■□K		400	1.27	10.6	
SMC80S-0075-30■□K	80x80	750	2.39	19.9	
SMC80S-0100-30■□K		1000	3.18	26.4	
SMC80S-0120-30■□K		1200	3.82	34	
SMC80S-0150-30■□K		1500	4.77	37.4	
SMK80S-0075-30■□K		750	2.39	19.2	
SMK80S-0100-30■□K		1000	3.81	25.8	
SMH110D-0120-30■□K	110x110	1200	4	32	
SMC130D-0120-30■□K	130x130		3.8	31.6	
SMC130D-0150-30■□K		1500	5	37.5	
SMC130D-0150-30■□K		1500	5	42.4	
SMC130D-0250-30■□K		2500	7.96	61	
SMC130D-0300-30■□K		3000	9.55	72	
SMC130D-0300-20■□K		3000	14.3	77.7	2000
SMK180G-0300-20■□K	180x180	3000	14.33	37.5	2000
SMK180G-0400-20■□K		4000	19.1	50	
SMK180G-0500-20■□K-		5000	23.88	62.6	

Note 1:

■= M: Magnetic Encoder ■= Q: Multi-turn Magnetic Absolute Encoder ■= A: 2500 P/R Optical Encoder

■= M: Magnetic Encoder ■= W: 2500 P/R Incremental Magnetic Encoder

Note 2:

□= A: Without Brake = B: With Brake

DC Servo Drive

The DC Servo Drive delivers top-tier intelligent servo control optimized for AGVs, AMRs, industrial automation, and robotic applications. This versatile drive accommodates multiple operational modes such as position, velocity, and torque control, seamlessly interfacing with both brushless DC servo motors.

Incorporating sophisticated vector control techniques and rapid response capabilities, our product guarantees stable, smooth motion and enhances system robustness. It offers extensive communication options and configurable settings to adapt to a wide variety of application demands.

Key Features

Integrated Servo Design

Combines motor, driver, encoder, and brake in a single enclosure, minimizing wiring and footprint.

High Responsiveness

Delivers smooth torque output and precise motion through closed-loop control with low latency.

Multiple Power Ratings

Available in a wide range of voltage and power configurations (e.g. 24V/48V, 50W–3000W), supporting dynamic load conditions.

Optional Electromagnetic Brake

Enables safe holding and emergency stop in power-loss or fault conditions.

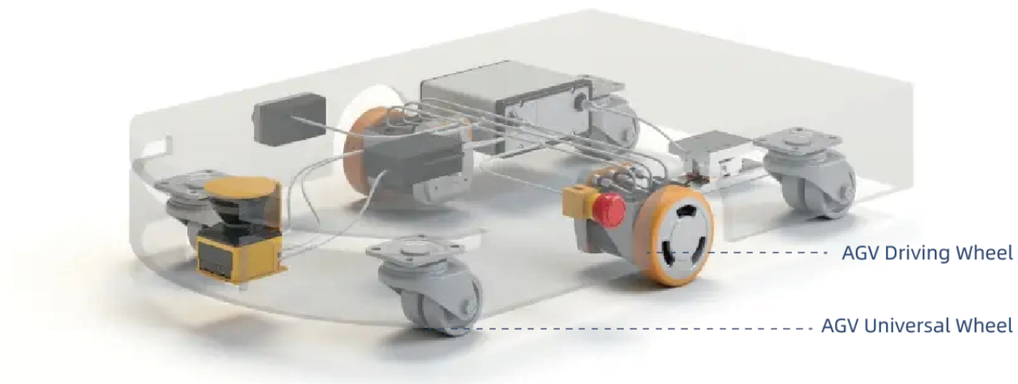
Model	Power(W)	Max. Continuous Output Current (RMS) (A)	Peak Current (AP)	Brake Power Supply	24V Logic Power Supply
FD114S-C□-000	50 - 100	5	8	●	●
FD124S-C□-000	200 - 400	15 (12A without additional cooling)	48	○	●
FD124S-C□-000				●	●
FD134S-C□-000	750	25 (20A without additional cooling)	80	○	●
FD134S-C□-000				●	●
FD144S-C□-000	1.2 - 1.5 k	40 (30A without additional cooling)	120	○	●
FD144S-C□-000				●	●
FD164S-C□-000	2.5 - 3 k	80 (60Awithout additional cooling)	240	●	●

Note 1:

□ = C:CANopen □ = L:RS485/Pulse □ = E:EtherCAT

MOTION

Caster Wheel



Model Overview

Traction Wheel(TW Series)

The AGV Driving Wheel is a high-load-capacity drive wheel module designed for industrial AGVs and AMRs requiring reliable traction, smooth motion, and long service life. Built with a reinforced metal core and wear-resistant polyurethane tread, it ensures excellent grip and stability under continuous operation.

Key Features

- **High Load Capacity**
  Supports up to 500kg per wheel, suitable for medium to heavy-duty AGV platforms. Durable PU Tread
  Provides excellent wear resistance, low rolling resistance, and quiet operation on industrial floors

- **Optimized for Servo Integration**
  Compatible with flange-mounted servo motors and gearboxes for precise motion control

- **Robust Construction**
  Industrial-grade metal hub and sealed bearings ensure mechanical strength and minimal maintenance

- **Flexible Customization**
  Available in multiple diameters, widths, and mounting configurations to meet various design needs

1 Hub Fitting

Model	AB-TW-D130-C200-EP	AB-TW-D150-C250-EP	AB-TW-D150-C250-HP	AB-TW-D150-C280-FS	AB-TW-D200-C300-EP	AB-TW-D180-C400-EP	AB-TW-D200-C500-EP	AB-TW-D200-C400-FS
Material	Polyurethane 73 shore A	Polyurethane 73 shore A	Polyurethane 80 shore A	Polyurethane 93 shore A	Polyurethane 73 shore A	Polyurethane 83 Shore A	Polyurethane 93 Shore A	Polyurethane 83 Shore A
Grain	Embossed Pattern	Embossed Pattern	Herringbone Pattern	Flat Surface	Embossed Pattern	Embossed Pattern	Embossed Pattern	Flat Surface
Core Material, Color	Cast Iron / Black Paint				Cast Iron / Black Paint	Aluminum / Orignial Color	Aluminum/ Black Paint	Aluminum / Black Paint
Wheel Diameter (mm)	130	150			200	180	200	200
Tread Width (mm)	40	40			40	50	50	42
No. of Fixing Holes	6-M5	6- Φ6.5			6- Φ6.5	6×6.6 2×M6	4×7 2×M8	6×M8
Central Hole (mm)	35	50			50	40	115	115
PCD(mm)	45	70			70	65	133	133
Max. Load Capacity (kg)	200	250	250	280	300	400	500	400

1 Keyway

Model	AB-TWK-D130-C250-EP	AB-TWK-D200-C300-EP	AB-TWK-D125-C300-EP	AB-TWK-D150-C400-EP	AB-TWK-D200-C500-EP
Material	Polyurethane 73A	Polyurethane 93A	Polyurethane 93A	Polyurethane 73A	Polyurethane 93A
Grain	Embossed Pattern				
Core Material, Color	Cast Iron / Black Paint				
Wheel Diameter (mm)	130	200	125	150	200
Tread Width (mm)	51	45	50	50	50
Axle Bore (mm)	20	16	25	25	25
Hub Groove Length (mm)	6	5	8	8	8
Hub Groove Height (mm)	23	18	28	28	28
Max. Load Capacity (kg)	250	300	300	400	500

MOTION

Wheel

Universal Wheel(UW Series)

The AGV Universal Wheel is a precision universal caster wheel module used as an auxiliary support wheel on AGVs and AMRs. Designed for 360° rotation and omnidirectional mobility, it ensures smooth turning, structural balance, and low-friction movement during autonomous navigation.

With a dual-wheel configuration and high-grade polyurethane surface, the UCW module reduces vibration and enhances maneuverability in space-constrained environments such as warehouses, factories, and cleanrooms

Key Features

- Omnidirectional Swivel Motion
- Dual-Wheel Structure

Provides better weight distribution and rolling stability under dynamic loads.

- Quiet, Floor-Friendly Operation

Polyurethane wheels reduce noise and protect flooring surfaces during long-term use.

- Compact & Low Profile

Low center of gravity improves AGV stability, especially when turning or braking.

- Industrial Durability

Steel frame and sealed bearings ensure long operational life in continuous-duty environments.

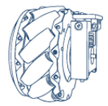
2 Universal Wheel

Model	AB-UW-D25-C30	AB-UW-D57-C100	AB-UW-D50-C150	AB-UW-D55-C200	AB-UW-D65-C200	AB-UW-D76S-C150	AB-UW-D76S-C200
Tread Material	PU 55D	PU 93A				PU 73A	PU 93A
Hub Material	PU 73A	Aluminum					
Wheel Dia (mm)	25	57	50	55	65	76	76
Wheel Width (mm)	15	14×2	20×2	20×2	24×2	24×2	24×2
Total Height (mm)	37	80	82	79	87	107	107
Radius (mm)	16	22	20	20	20	20	20
Top Plate (mm)	30×38	67×49	111×80	84×84	111×80	104×82	104×82
Bolt Hole Centers (mm)	29×21	52×35	87/78×60	64/59×64/59	87/78×60	87/78×60	87/78×60
Attaching Bolt Size (mm)	4	8	9	9	9	9	9
Max. Load Capacity (kg)	30	100	150	200	200	150	200

Model	AB-UW-D76-C200	AB-UW-D76-C150	AB-UW-D76-C300	AB-UW-D80-C500	AB-UW-D100-C600	AB-UW-D150-C1000	AB-UW-D200-C1500
Tread Material	PU 73A	PU 73A	PU 93A			PU 55D	
Hub Material	Aluminum			Steel 45#		Iron	
Wheel Dia (mm)	76	76	76	80	100	150	200
Wheel Width (mm)	24×2	24×2	30×2	35×2	35×2	40×2	40×2
Total Height (mm)	107	107	110	110	133	191	268
Radius (mm)	20	20	22	21	21	45	57
Top Plate (mm)	110×85	110×85	116×110	116×100	116×100	159×115	185×135
Bolt Hole Centers (mm)	86×60	86×60	92/76×76/67	78×78	78×78	133/125×86/62	155/132×105/85
Attaching Bolt Size (mm)	9	9	11	9	9	14	14
Max. Load Capacity (kg)	200	150	300	500	600	1000	1500

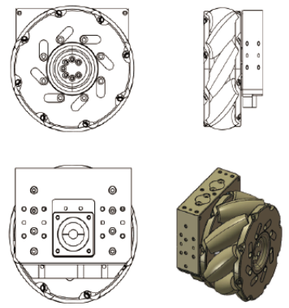
MOTION

Wheel



Mecanum Wheel

The AB-MW series Mecanum wheels are designed to provide omnidirectional mobility, allowing AGVs, robotics platforms, and industrial transport systems to move smoothly in any direction—forward, backward, sideways, or diagonally—without the need for traditional steering mechanisms.



Material
Casting Polyurethane

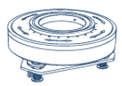
Wheel Diameter
100 - 836 mm

Payload Capacity
200kg-40000kg

Model	Wheel Diameter (mm)	Payload(4 wheel) (kg/set)	Weight (kg/pcs)	Torque(N·m)	Max.Speed(m/s)
AB-MW-D100-C250	100	250	0.7		
AB-MW-D120-C300	127	300	2		
AB-MW-D152-C500	152	500	2.6		
AM-MW-D176-C600	176	600	3		
AB-MW-D203-C800	203	800	4.5		
AB-MW-D254-C1500	254	1500	13.5		
AB-MW-D280-C2000	280	2000	15	Note:	
AB-MW-D305-C3000	305	3000	17.5	1. Reference values: Motor speed ——3000RPM, Reduction ratio——1:50, Max. Speed 0.5m/s - 1m/s.	
AB-MW-D330-C3500	330	3500	25		
AB-MW-D355-C4500	355	4500	32		
AB-MW-D375-C5000	375	5000	40	2. Customized according to the motor speed and the reduction ratio of the reducer.	
AB-MW-D406-C6000	406	6000	45		
AB-MW-D457-C8000	457	8000	60		
AB-MW-D475-C9000	475	9000	75		
AB-MW-D508-C10000	508	10000	80		
AB-MW-D558-C15000	558	15000	110		
AB-MW-D609-C20000	609	20000	143		
AB-MW-D660-C30000	660	30000	196		
AB-MW-D836-C40000	836	40000	300		

MOTION

Lifting and Rotating Mechanism



AB-LRP-Customized Model

The Lift Module is a robust, precision-engineered scissor-type lifting solution tailored for AGV and AMR applications. It enhances flexibility and ergonomics by enabling height-adjustable load handling—whether for loading, unloading, interfacing with machinery, or adapting to varying floor levels. Its compact structure and dependable performance make it ideal for modern automation environments.

Key Features:

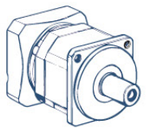
- Disc lift mechanism for vertical adjustment of payloads—precise and smooth motion control
- Flexible load interfacing —— supports loading directly onto the lift, via conveyors, rollers, or fixtures
- High payload capacity: supports up to 2,000 kg in heavy-duty configurations (customizable to project requirements)

	Lift Parameters			Lift Motor Parameters				Rotation Parameters		Others
Model	**Route (mm)**	**Reducer Ratio**	**Up/Down Speed (mm/s)**	**Load (kg)**	**Power (W)**	**Voltage (V)**	**Torque (N·m)**	**Ratio**	**Rotate 90° (s/90°)**	**Weight (kg)**
AB-LRP-P400-L60-C500	60	40	6.25	500	400	48	1.27	241.6	1.21	30
AB-LRP-P600-L50-C1000	50	40	7.5	1000	600	48	1.91	355.6	1.78	58
AB-LRP-P750-L50-C1500	50	49.5	10	1500	750	48	2.39	202.5	1.01	88.8
AB-LRP-P1200-L50-C2000	50	49.5	10	2000	1200	48	4	202.5	1.01	88.8

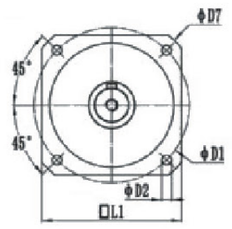
MOTION

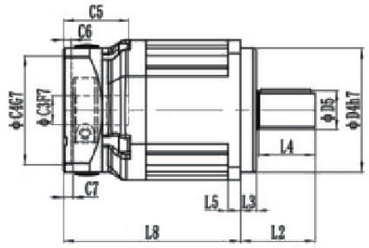
Planetary Gearbox

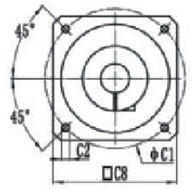
AB-PGT-Customized Model

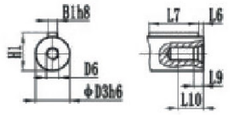


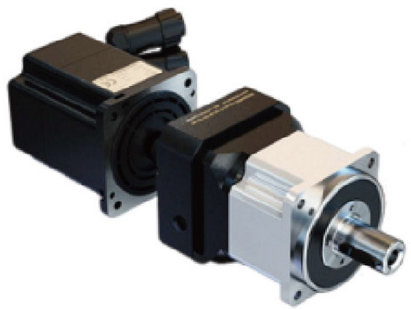
The AB-PGT series of high-precision planetary gearboxes is designed for servo and stepper motor applications, offering compact size, high efficiency, and long-term reliable operation. Engineered for demanding industrial environments, these gearboxes provide excellent torque handling, minimal maintenance, and superior performance under varying conditions.

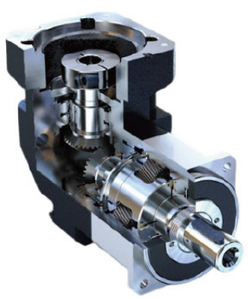


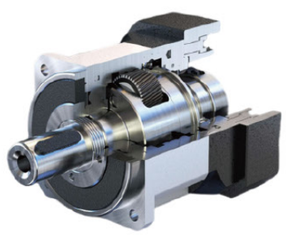












Model	Stage	Ratio	Nominal Torque (N·m)	Nominal Input Speed (rpm)	Max. Radial Load (N)	Max. Axial Load (N)	Precise Backlash (arcmin)	Noise (dB)
AB-PGT-F42-L1-□-■	1	4 - 10	14 - 23	3000	770	330	3	58
AB-PGT-F42-L2-□-■	2	12 - 90	14 - 23	3000	770	330	5	58
AB-PGT-F60-L1-□-■	1	3 - 10	42 - 65	3000	1500	700	3	60
AB-PGT-F60-L2-□-■	2	12 - 90	42 - 65	3000	1500	700	5	60
AB-PGT-F90-L1-□-■	1	3 - 10	105 - 165	3000	3200	1600	3	60
AB-PGT-F90-L2-□-■	2	12 - 90	105 - 165	3000	3200	1600	5	60
AB-PGT-F115-L1-□-■	1	3 - 10	220 - 345	3000	6700	3300	3	63
AB-PGT-F115-L2-□-■	2	12 - 90	255 - 345	3000	6700	3300	5	63
AB-PGT-F142-L1-□-■	1	3 - 10	450 - 700	3000	9300	4500	3	65
AB-PGT-F142-L2-□-■	2	12 - 90	455 - 700	3000	9300	4500	5	65
AB-PGT-F180-L1-□-■	1	3 - 10	910 - 1431	2000	14000	7000	5	67
AB-PGT-F180-L2-□-■	2	12 - 90	910 - 1568	2000	14000	7000	7	67
AB-PGT-F220-L1-□-■	1	3 - 10	1500 - 2567	2000	16000	8000	5	70
AB-PGT-F220-L2-□-■	2	12 - 90	1500 - 2567	2000	16000	8000	7	70

Note:

1. Output Type-□: S1-Shaft; S2-Shaft With Key; S3-Splinde Shaft; K1-Hollow Shaft; K2-Hollow With Key; K3-SWpine hollow; OP3-Case Mounting; OP4-Foot Mounting;
2. Structure -■: R-Rignt Angle; L: Line

ATOMBOTIX

03 Energy

General Introduction

Our Energy System is a comprehensive, modular power solution designed specifically for autonomous mobile platforms such as AGVs and AMRs. Engineered for high efficiency, safety, and long-term reliability, the system integrates charging technology and energy storage into a unified architecture that ensures continuous uptime in demanding industrial environments.

Our Energy System includes the following core products:

01.

Contact Charging Series
high-efficiency, safe AGV/AMR docking power solution

02.

Wireless Charging Series
compact, wide-range, protected industrial power supply

03.

Lithium-ion Battery Series
efficient, reliable contactless AGV/AMR charging solution

04.

DC-DC Series
safe, durable, expandable AGV/AMR energy storage

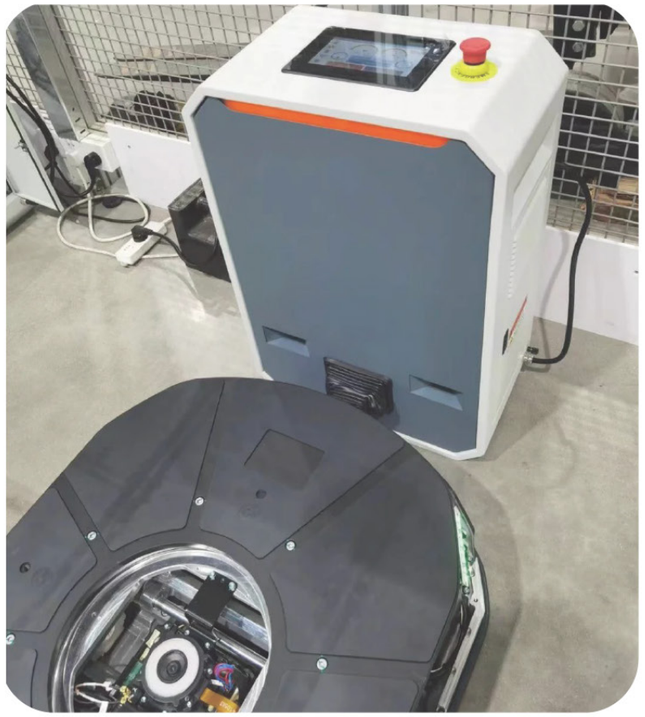
Contact Charging series

Our Contact Charging Module is a high-efficiency, industrial-grade charging solution designed for AGV and AMR platforms. Using direct-contact power transmission, it delivers fast, safe, and reliable energy transfer during autonomous docking, with support for high current and flexible installation layouts.

Key Features:

- High-power fast charging: 1.2–4.8 kW power, up to 200 A current, suitable for large-capacity batteries
- Multi-voltage compatibility: Supports 24 V and 48 V systems, compatible with lithium and lead-acid batteries
- Smart communication: CAN, Modbus, and Wi-Fi protocols for real-time control and monitoring
- Safety protection: Multiple protections including OVP, OCP, reverse polarity, backflow, and OTP
- Strong adaptability: Brush plate or telescopic contact design, wide height range, fits multiple vehicle types

Application Scenarios:



ENERGY

Contact Charging

NPB-1200

Wide Range
90-264Vac Input

Adjustable Output
50-100% adjustable current

Compatibility
CAN Bus Support

Mode
2-stage/3-stage charging - Configurable via DIP switch

Model	AB-CM-1200-24	AB-CM-1200-48
Output Voltage	27.6 V	55.2 V
Output Current	36 A	18 A
Max. Power	1209.6 W	1209.6 W
Battery Capacity	120 - 420 Ah	60 - 210 Ah
Efficiency	93%	94%
Input Voltage	90 - 264 VAC	
Safety Specification	CB IEC62368-1,IEC60335-1/2-29, Dekra BS EN/EN62368-1,BS	
Protection	OVP / OTP / SCP / Reverse Polarity	
CANBUS Interface	CANBus 2.0B	
Operating Temperature	-30 °C to +70 °C	

Manual Charger-1200W

Rated Input Voltage
100-240VAC

Rated Output Current
≤58.8V20A

Rated Output Power
1200W

Communication Method
CAN

Model	AB-MC-1200
Output Voltage	54.75 V ± 0.2 V
Output Current	20 A ± 3%
Max. Power	1200 W
Supported Battery Types	Lithium / Lead-acid Batteries
Efficiency	≥ 85%
Input Voltage	100-240 VAC
Charging Mode	Constant Current / Constant Voltage (CC/CV)
Dimensions	303 × 158 × 90 mm
Net Weight	4.3 kg
Operating Temperature	-10°C to 40°C

CC-Compact Charger

Wide Range
220VAC±15%

Capacity
2.4kW battery charger

High Efficiency
≥ 92

Communication
CAN

Model	AB-CC-2400-24	AB-CC-2400-48
Output Voltage	16-32 VDC	30-65 VDC
Output Current	100 A	50 A
Rated Power	2.4 kW	
Efficiency	≥92%	
Input Voltage	220 VAC ±15%	
Comm. Protocol	CAN / Modbus / Wi-Fi	
Charging Mode	AGV contact / Telescopic	
Protection	OVP / OCP / Reverse Polarity / Backflow	
Dimensions	540 × 580 × 390 mm	
Weight	35 kg	
Operating Temp.	-20°C to +65°C	
AGV Brush Plate Center Ground Clearance	90 mm - 400 mm	

SCC-Split-type Compact Charger

Wide Range
220VAC±15%

Capacity
4.8 kW battery charger

High Efficiency
≥ 92

Communication
CAN

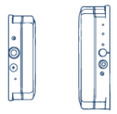
Model	AB-SCC-2400-24	AB-SCC-2400-48	AB-SCC-4800-24	AB-SCC-4800-48
Output Voltage	16-32 VDC	32-64 VDC	16-32 VDC	32-60 VDC
Output Current	0-100 A	0-50 A	0-200 A	0-100 A
Rated Power	2.4 kW	2.4 kW	4.8 kW	
Efficiency	≥92%	≥92%	≥92%	
Input Voltage	220VAC ±15%	220VAC ±15%	220VAC ±15%	
Comm. Protocol	CAN, Modbus TCP/AP, WIFI, Ethernet		CAN / Modbus / Wi-Fi	
Charging Mode	Telescopic / AGV contact		Telescopic / AGV contact	
Protection	OVP/OCP/Reverse Polarity/Backflow		OVP / OCP / Reverse Polarity / Backflow	
Dimensions	Control: 264 × 229 × 400 mm Telescopic: 580×253×695 mm		Control: 351 × 215 × 447 mm Telescopic: 580 × 253 × 695 mm	
Net Weight	Control: 13 kg		Control: 23 kg	
Operating Temperature	-20°C to +65°C		-20°C to +65°C	
Brush Plate Center Ground Clearance	150mm - Unlimited		150mm - Unlimited	

Energy

Wireless Charging Series

General Introduction

Wireless Charging 24&48 V



Our Wireless Charging Module offers a fully contactless power solution for industrial mobile robots such as AGVs and AMRs. Designed for high-efficiency energy transfer and long-term reliability, it enables automated charging in environments where contact-based systems are unsuitable.

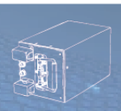
Key Features:

- Inductive charging system with no mechanical wear or arcing
- High power transmission efficiency: ≥ 87–90%
- Modular integration: includes transmitter, receiver, and matched power supply
- Large alignment tolerance: ±50 mm (X), ±10 mm (Y), 10–80 mm (Z)
- Supports CAN or RS485 for system communication and monitoring

Model	AB-WLC-1200-48V	AB-WLC-3000-48V	AB-WLC1500-24V	AB-WLC3000-24V
Power Adaptor Input	90-264 VAC	110-264 VAC	110-264 VAC	110-264 VAC
Rated Power	1200 W	3000 W	1500 W	3000 W
Output Voltage	40 - 60 VDC	40 - 60 VDC	20-30 VDC	21-30 VDC
Output Current	0-20 A	50 ±1 A	50 A ±1 A	100 A ±1 A
Efficiency	≥85%	≥87%	87%	85%
Working Distance (Vertical)	10 - 40 mm	40 - 80 mm	40 - 50 mm	0 - 80 mm
Horizontal Offset Tolerance	X: 20 mm / Y: 10 mm	X: 50 mm / Y: 10 mm	X: 20 mm / Y: 10 mm	X: 50 mm / Y: 10 mm
Communication	RS485 / CAN		RS485 / CAN	
Cooling Method	Natural cooling		Natural cooling	
Protection	Over-temp/over-voltage/over-current/Status Indicator		Over-temp/over-voltage/over-current/Status Indicator	
Transmitter Size	190 × 170 × 59 mm	300 × 300 × 80 mm	300 × 300 × 80 mm	300 × 300 × 80 mm
Receiver Size	190 × 140 × 49 mm	250 × 250 × 70 mm	250 × 250 × 70 mm	300 × 300 × 116 mm
Power Adaptor	294 × 210 × 111 mm	520 × 300 × 123 mm	520 × 300 × 123 mm	
Protection Rating (TX:Transmitter/RX:Receiver)	TX: IP65 RX: IP65 Power Supply Box: IP54		TX: IP65 RX: IP65 Power Supply Box: IP54	
Operating Temperature	-40℃ to 60℃		-20℃ to 50℃	-40℃ to 60℃

ENERGY

Lithium-ion Battery series



Our $LiFePO_4$ Battery Modules are built with high-grade lithium iron phosphate cells and a robust BMS, providing safe, efficient, and long-lasting power for industrial mobile robots such as AGVs and AMRs. Designed for demanding environments, these battery packs support modular expansion, fast charging, and advanced

Key Features:

- Offer superior energy density, allowing for longer operation times and reduced space requirements
- Engineered to deliver over 2000 charge and discharge cycles, ensuring durability and fewer replacements
- Equipped with advanced charging technology to minimize downtime and enhance operational efficiency
- Designed to perform reliably across a wide range of temperatures and environmental conditions

Realiable & Durable

- Stable Output, 24/7 Performance
- Safe & Long-Lasting for Every Move
- Strong Core Power, Uninterrupted Operation

Modular Lithium-ion Battery

Capacity
approximately 1.1 kWh, available in 24 V 45 Ah or 48 V 23 Ah

Scalability
Stackable for flexible system expansion

Safety
BMS protection for over-temp/ over-voltage/over-current

Certifications
UL, CE, FCC, EN13849, UN 38.3

Model	AB-BT-LFP-24V-45AH-MOD	AB-BT-LFP-48V-23AH-MOD
Nominal Voltage	24 V	48 V
Nominal Capacity	45 Ah	23 Ah
Max. Charging Current	40 A	23 A
Max. Continuous Discharge	40 A	20 A
Cycle Life	≥2000cycles(@70%-80%)	
Communication	CANopen	
Certifications	UL / CE / FCC / EN13849 / UN38.3	
Dimensions (mm)	310×272×162	382×222×102
Net Weight	13.3 kg	13.5 kg
Operating Temperature	Charge:0-45℃ /Discharge:-20-60℃	

Customized Battery-LFP 24V

Customizable
24Ah/30Ah/50Ah/60Ah/100Ah/210Ah

Quality from Design
Quality Cells from BYD/CATL/Gotion, etc

Safety
Built-in BMS protection

BMS Communication
RS485-ASCII/MODBUS

Type	AB-BT-LFP-24V-24AH	AB-BT-LFP-24V-30AH	AB-BT-LFP-24V-50AH	AB-BT-LFP-24V-60AH	AB-BT-LFP-24V-100AH	AB-BT-LFP-24V-210AH
Nominal Voltage	24 V					
Charing Operating Temperature	0℃ - 55℃					
Discharing Operating Temperature	-20℃ - 60℃					
Communication	RS485-ASCII/MODBUS					
Cell material	Lithium Iron Phosphate					
Full Charging(FC) Voltage	28.8 V					
Cycle Life	2000 cycles					
Nominal Capacity	21 Ah	30 Ah	50 Ah	60 Ah	100 Ah	210 Ah
Max. Charging Current	21 A	30 A	50 A	60 A	100 A	210 A
Discharge Cut-off Voltage (FD)	20 V	22.4 V	22.4 V	22.4 V	20 V	20 V
Max. Discharge Current	21 A	30 A	50 A	50 A	100 A	200 A
Dimensions	230 × 168 × 85 mm	290 × 200 × 85 mm	323 × 243 × 123 mm	321 × 225 × 176 mm	365 × 240 × 215 mm	510 × 190 × 370 mm
Net Weight	7 kg	8 kg	11.5 kg	13.5 kg	21 kg	45 kg

Customized Battery-LFP 48V

Type	AB-BT-LFP-48V-9AH	AB-BT-LFP-48V-12AH	AB-BT-LFP-48V-20AH	AB-BT-LFP-48V-30AH	AB-BT-LFP-48V-30AH-Split	AB-BT-LFP-48V-30AH-Paralled	AB-BT-LFP-48V
Nominal Voltage	48 V						
Charing Operating Temperature	0℃-55℃						
Discharing Operating Temperature	-20℃-60℃						
Communication	RS485-ASCII/MODBUS						
Cell Material	Lithium Iron Phosphate						
Cycle Life	>2000 cycles						
Full Charging(FC) Voltage	54 V	57.6 V	54 V	54 V	54 V	54 V	54 V
Nominal Capacity	9 Ah	12 Ah	20 Ah	30 Ah	30 Ah	30 Ah	40 Ah
Max. Charging Current	10 A	24 A	20 A	30 A	30 A	30 A	40 A
Discharge Cut-off Voltage (FD)	37.5 V	40 V	37.5 V	37.5 V	37.5 V	37.5 V	37.5 V
Max. Discharge Current	10 A	24 A	40 A	30 A	30 A	30 A	40 A
Dimensions	200 × 150 × 80 mm	190 × 148 × 140 mm	295 × 99.5 × 220 mm	255 × 170 × 180 mm	200 × 155 × 130 mm	300 × 235 × 135 mm	310 × 250 × 137 mm
Net Weight	3 kg	8 kg	9 kg	12.5 kg	13 kg	13 kg	15 kg

Type	AB-BT-LFP-48V-54AH	AB-BT-LFP-48V-72AH	AB-BT-LFP-48V-100AH	AB-BT-LFP-48V-173AH	AB-BT-LFP-48V-300AH	AB-BT-LFP-48V-412AH
Nominal Voltage	48 V					
Charing Operating Temperature	0℃ - 55℃					
Discharing Operating Temperature	-20℃ - 60℃					
Communication	RS485-ASCII/MODBUS					
Cell Material	Lithium Iron Phosphate					
Cycle Life	>2000 cycles					
Full Charging(FC) Voltage	54 V	57.6 V	54 V	57.6 V	54 V	57.6 V
Nominal Capacity	54 Ah	72 Ah	100 Ah	173 Ah	300 Ah	412 Ah
Max. Charging Current	50 A	50 A	100 A	100 A	200 A	200 A
Discharge Cut-off Voltage (FD)	37.5 V	44.8 V	37.5 V	40 V	37.5 V	40 V
Max. Discharge Current	50 A	50 A	100 A	100 A	200 A	300 A
Dimensions	400 × 260 × 145 mm	430 × 235 × 230 mm	380 × 33 × 220 mm	680 × 300 × 240 mm	900 × 360 × 260 mm	850 × 550 × 275 mm
Net Weight	21.5 kg	32.5 kg	40 kg	65 kg	105 kg	200 kg

Low-temp. Battery

Cycle Life
2000+ cycles

Efficiency
0-98% charging Efficienecy

Temp Range
-20°C to 60°C

Customization
24V, 48V, 9Ah to 412Ah Customizable

Type	AB-BT-LTO-24V-10AH-LT	AB-BT-LTO-24V-60AH-LT	AB-BT-LTO-48V-10AH-LT
Nominal Voltage	24 V	24 V	48 V
Charing Operating Temperature	-30℃ - 55℃		
Discharing Operating Temperature	-30℃ - 60℃		-30℃-55℃
Communication	RS485-ASCII/MODBUS		
Cell Material	Lithium Iron Phosphate(LFP)		
Cycle Life	>2000 cycles		
Full Charging(FC) Voltage	28 V	28.8 V	56 V
Nominal Capacity	10 Ah	60 Ah	10 Ah
Max. Charging Current	40 A	50 A	40 A
Discharge Cut-off Voltage (FD)	17 V	16 V	34 V
Max. Discharge Current	10 A	50 A	10 A
Dimensions	225 × 100 × 170 mm	330 × 320 × 125 mm	260 × 140 × 170 mm
Net Weight	4 kg	18 kg	8 kg

ENERGY

DC-DC

DC-DC Enclosed 200W

Rated Power
240W

Wide Input Voltage
2:1 wide input range

Output Voltage
24/48V

Safety Standard
EN50155 and EN45545-2 Railway Standard

Model	RSD-200-24	RSD-200-48
Wattage	200 W	200 W
Output Current	0 - 16.7 A	0 - 16.7 A
Output Voltage	24 V	48 V
Output VoltageOptions	Single	Single
DC Output Adjustment	N/A	N/A
Dimensions	191 x 86 x 39 mm (W × H × D)	191 x 86 x 39 mm (W × H × D)
Operating Temperature	-40 - 55°C(no derating), +70°C @ 60% load by free air convection, +70°C no derating with external base plate, TX class compliance	
Safety Standards	Meet IEC60950-1 (LVD)	
EMC Standards	Compliance to EN55022 class B, EN50121-3-2, EN61000-4-2,3,4,6,8	
Installation	Screw-mounted on baseplate or metal enclosure	

DC-DC DIN-Rail 240W

Rated Power
240W

Input Voltage
14.4-154V

Output Voltage
12/24/48V

Safety Standard
EN50155 Railway Standard

Model	DDR-240-24	DDR-240-48
Wattage	240 W	240 W
Output Current	0-10 A	0-5 A
Output Voltage	24 V	48 V
Output Voltage Options	Single	Single
DC output adjustment	24-28 V	48-56 V
Dimensions	40 x 125.2 x 113.5 mm(W × H × D)	40 x 125.2 x 113.5 mm(W × H × D)
Operating Temperature	-40-70℃	
Safety Standards	IEC 62368-1 (LVD, except for 67.2-154VIN) approved, EAC TP TC 004 approved; Design refer to UL508	
EMC Standards	Compliance to EN55032, EN61000-3-3. Compliance to EN55024, EN61000-6-2 (EN50082-2), EN61000-4-2,3,4,5,6,8. Compliance to EN45545-2 for fire protection ; Meet EN50155 / IEC60571 including IEC61373 for shock & vibration EN50121-3-2 for EMC	
Installation	Vertical DIN rail mounting	

ENERGY

Brush Plate

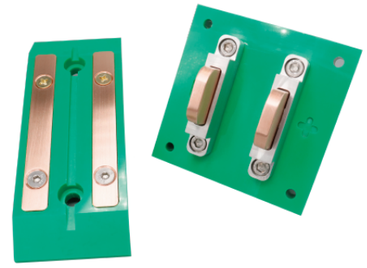
Brush Plate

High Current Capacity
Supports 35A to 100A

Durable Construction
Copper-carbon alloy electrodes

Compact & Efficient Design
40% compression rate for reliable contact

Robust Operating
Up to 50,000 charge cycles



Model	AB-BP35A	AB-BP50A	AB-BP100A
Electrical Parameters			
Supported Current	35 A	50 A	100 A
Supported Voltage	No Limitation		
Essential Parameters			
Material	Aluminum/copper/copper carbon/nickel plating		
Electrode	1-4P		
Plate Compression	40%		
Plate Dimensions (L*W*H)	170 × 65 × 15 mm	220 × 90 × 20 mm	220 × 90 × 20 mm
Block Dimensions (L*W*H)	100 × 100 × 36 mm	120 × 100 × 30 mm	120 × 100 × 30 mm
Net Weight	1.0 kg	1.5 kg	1.5 kg
Duration	30000-50000 times		
Environmental Parameters			
Working Environment	Indoor		
Operating Temperature	-20℃ - 45℃		
Storage Temperature	-25℃ - 60℃, Humidity 5 - 95%		
Atmospheric Pressure	86 kPa - 106 kPa		

04 Perception

Key Capabilities

Environment Perception
Builds an accurate map of the surroundings, detects static and dynamic obstacles, and recognizes key environmental features.

Self-Localization & State Awareness
Continuously determines precise position, orientation, and movement status to support stable navigation.

Task Object Perception
Identifies, locates, and aligns with pallets, shelves, or other cargo to enable accurate loading and unloading.

Safety Perception
Monitors for people and hazards, dynamically adjusts speed, and triggers emergency stops to ensure safe operation.

Our Perception System enables intelligent, safe, and precise navigation for industrial mobile platforms such as AGVs and AMRs. Designed for dynamic environments, this suite integrates multiple sensors—ranging from magnetic detection to advanced LiDAR and vision modules—to support localization, obstacle avoidance, POI recognition, and operational safety.

Perception

2D Lidar Series

We offer a high-performance 2D Time-of-Flight (TOF) LiDAR series—including Mini Navi Pro, 2D Navi Pro, Ranger, and Ranger Pro—engineered for AGV and AMR navigation, obstacle detection, and safety monitoring in factory and warehouse settings.

Key Features:

- Robust obstacle detection with configurable multi-echo and up to 64 detection channels
- Flexible field-of-view options —— 270° or full 360° scanning for optimized coverage
- Exceptional resolution & accuracy — angular resolution down to 0.018°, absolute accuracy ±20 mm
- Wide working range —— up to 50 m for high-reflectivity targets; low-end sensitivity at 0.05 m
- High scanning frequency —— up to a maximum sampling rate of 600k, improving measurement accuracy and angular resolution

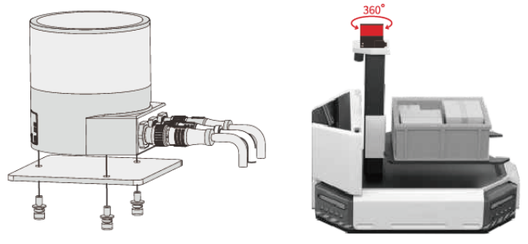
2D Lidar series

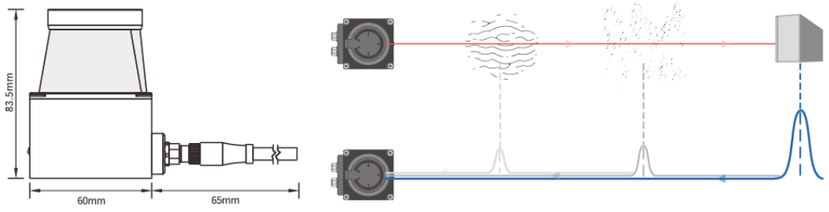


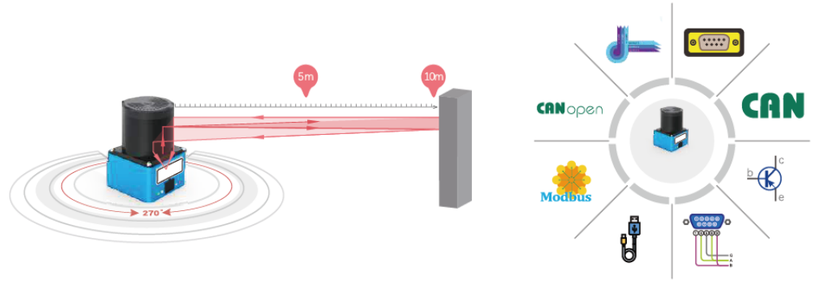


Model	2D NAVI PRO	MINI NAVI	MINI NAVI PRO	RANGER	RANGER PRO
Detection Range	0.05–20 m (2% reflectivity) 0.05–50 m (90% reflectivity)	0.05–10 m (10% reflectivity) 0.05–30 m (90% reflectivity)	0.05–10 m (10% reflectivity) 0.05–50 m (90% reflectivity)	0.05–2 m (10% reflectivity) 0.05–5 m (90% reflectivity)	0.05–6 m (10% reflectivity) 0.05–10 m (90% reflectivity)
Scanning Angle	360° (2D)	320° (2D)	360° (2D)	270° (2D)	270° (2D)
Sampling Rate	50kHz / 100kHz / 150kHz / 200kHz	432 kHz	540 kHz	74 kHz	74 kHz
Angular Resolution	Min. 0.018° (based on frequency, motor speed, sampling rate)	0.025° / 0.05° / 0.1° / 0.25° / 0.5° (depends on motor speed & frequency)	0.025°	0.1° / 0.2° (software configurable)	0.1° / 0.2° (software configurable)
Scan Frequency	10Hz, 15Hz, 20Hz, 25Hz, 30Hz	15 Hz, 30 Hz (customizable)	12.5 Hz / 25 Hz / 50 Hz	20 Hz	20 Hz
Accuracy	Measurement Accuracy ±20 mm Repeatability Accuracy ±10 mm Measurement Resolution 1 mm	Measurement Accuracy ±20 mm Repeatability Accuracy ±10 mm Measurement Resolution 1 mm Measurement Noise ±20 mm	Measurement Accuracy ±20 mm Repeatability <10 mm Measurement Noise ±20 mm Measurement Resolution 1 mm	Measurement Accuracy ±30 mm Measurement Noise ±30 mm	Measurement Accuracy ±30 mm Measurement Noise ±30 mm
Communication Interfaces	CANOpen, Ethernet, RS485, TCP/UDP	Ethernet, I/O	Ethernet, I/O, CAN	I/O, CAN, RS232, RS485, Ethernet, USB (Micro), TCP/UDP	I/O, RS232, RS485, CAN, USB, Ethernet
Digital Outputs	4 × NPN	4 × NPN	4 × NPN	4 × NPN	4 × NPN
Regional Protection Zones	3 zones	3 zones	3 zones	3 zones	3 zones
Obstacle Avoidance	64 channels (each with 3 detection ranges)	16 channels	16 channels	64 channels	64 channels
Indicator Lights	4 × LED (green, yellow, orange, red)	4 × LED (green, yellow, orange, red)	4 × LED (green, yellow, orange, red)	4 × LED (green, yellow, orange, red)	4 × LED (green, yellow, orange, red)
Protection Rating	IP65	IP65	IP65	IP65	IP65
Operating Temperature	-10°C to 50°C (indoor, no frost/condensation)	-10°C to 50°C (indoor, no frost/condensation)	-10°C to 50°C (indoor, no frost/condensation)	-10°C to 50°C (indoor, no frost/condensation)	-10°C to 50°C (indoor, no frost/condensation)

Application Scenarios:



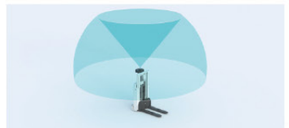


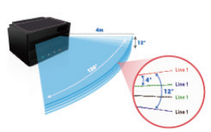


ATOMBOTIX

3D SLAM MAPPING AND POSTIONING

APPLICATION AREAS





3D Lidar series

Our3D LiDAR Series, including 3D Ranger and Ranger Slim, delivers rich, high-resolution point-cloud sensing for advanced AGV and AMR navigation, dynamic obstacle detection, and environmental mapping. These compact sensors enable full spatial awareness in both structured and unstructured settings.

Key Features:

- Full 360° horizontal & up to 59° vertical scanning with 40 vertical scan lines
- Long detection range: up to 40 m at 10% reflectivity (- 70 m at 80%) with ≤ 2 cm accuracy at 10 m, and high close-range sensitivity down to 0.1 m
- High point-density output: ~200,000 points/sec (first return), 10 Hz frame rate standard
- Ultra-compact design: ~65 × 65 × 60 mm; lightweight 265 g; IP67-rated for rugged environments; self-heating for sub-zero operation
- Built-in IMU & synchronization: supports IEEE 1588 PTP, GPS timestamp, improved motion compensation

3D Ranger

Range
40m @10% Reflectivity

Beams
40

Coverage
360° Horizontal & 59° V

Angular Resolution
15

Model	3D Ranger
Detection Range	0.1–70 m (Reflectivity ≥10%)
FOV	Horizontal: 360° Vertical: -7°–52°
Beam	40 lines
Sampling Rate	200,000 Hz
Angular Precision (1σ)	< 0.15°
Range Accuracy	≤ 2 cm
Scan Frequency	10 Hz
Laser Safety	Class 1
Close Proximity Blind Zone	0.1 m
Interface	Ethernet (100BASE-TX)
IMU	Built-in IMU Model: ICM40609
Power Supply	9–27 VDC, 6.5 W
Protection Rating	IP67
Dimensions	65 × 65 × 60 mm
Operating Temperature	-20°C to 55°C

Ranger Slim

Range
4m

Angle Resolution
0.1 °

Detection Angle
120°, 4-line scanning

Obstacle Avoidance Channels
64

Model	Ranger slim
Detection Range	0.05–1.5 m (10% reflectivity) 0.05–4.0 m (90% reflectivity)
FOV	120° (4 layers, 12° vertical span)
Beam	4 lines
Sampling Rate	144 kHz
Angle Resolution	0.5°
Absolute Accuracy	±40 mm
Scan Frequency	4×10 Hz
Laser Safety	Class 1
Channels	64 obstacle detection channels
Interfaces	I/O, USB, RS232, RS485, CAN, Ethernet
Status LEDs	Power (Green), Output 1–3 (Yellow/Orange/Red)
Power Supply	DC 18–30 V, <1.2 W
Protection Rating	IP65
Dimensions	70 × 51.5 × 40 mm
Operating Temperature	-10°C to 50°C (Indoor)

Perception

Camera

Object Finder-HD

Frame Rate: Up to 24fps, 16fps @ 1280 x 960
24fps @ 640 x 480

Image Output
Depth, RGB, IR, point cloud images

Connectivity
M12 X-Code, 8-pin female connector, and Gigabit Ethernet

Durability
IP65 protection

Model	Object Finder-HD
Technology	Stereo Vision + IR Laser
Depth Range	800–3000 mm (Adjustable via SGBM)
Near Field of View	850 mm x 710 mm @ 800 mm (H/V: Approximately 56°/48°)
Far Field of View	3465 mm x 2670 mm @ 3000 mm (H/V: Approximately 60°/48°)
Frame Rate (FPS) @ Resolution (Depth)	15 fps @ 1280 x 960 19 fps @ 640 x 480 19 fps @ 320 x 240
Frame Rate (FPS) @ Resolution @ Image Format (Color)	6 fps @ 2560 x 1920 @ CSI BAYER12GBRG 4 fps @ 2560 x 1920 @ YUYV 8 fps @ 1920 x 1440 @ YUYV 16 fps @ 1280 x 960 @ YUYV 25 fps @ 640 x 480 @ YUYV
Output	Depth Map, RGB, IR, Point Cloud
Trigger	2× Input/Output (Rising/Falling Edge)
Data Interface	Gigabit Ethernet (8-pin female)
Power Supply	DC 24V ±10%, 5W (idle) / 9W (active)
IP Ratings	IP65
Dimensions	145 × 35 × 90 mm
Net Weight	620 g
Operating Temperature	-10°C to 50°C

Object Finder-iTof

Depth Resolution
640 x 480@15FPS

Durability
IP65 protection

RGB Resolution
1600x1200@15fps

Output Format
16bit (Depth) + 8bit (IR) + JPEG (RGB)

Connectivity
Gigabit Ethernet

Model	Object Finder-iTof
Technology	Time-of-Flight (ToF) Depth Camera
Depth Range	0.15 – 5 m
Depth Resolution &Frame rate	640 × 480 @ 15 fps
RGB Resolution &Frame Rate	1600 × 1200 @ 15 fps
Depth Sensor FOV	H - 67° V - 50°
RGB Sensor FOV	H - 70° V - 50°
Output	16-bit Depth, 8-bit IR, JPEG RGB
Trigger	1× Digital Input (Passive Sync)
Data Interface	Gigabit Ethernet
Power Supply	PoE+/12V – 24V DC
IP Ratings	IP42
Dimensions	125 × 50 × 34.5 mm
Net Weight	256 g
Operating Temperature	-20°C to 50°C

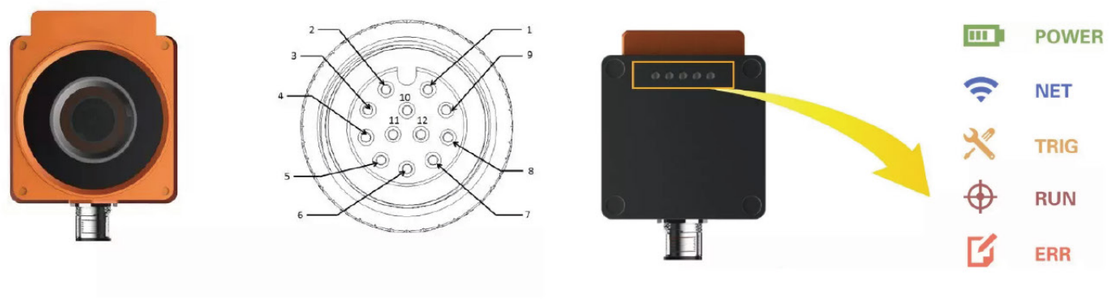
Perception

QR Scanning Camera

This industrial-grade code reader is specifically designed for Automated Guided Vehicles (AGVs) and other intelligent logistics systems. With its robust hardware design and advanced decoding algorithms, it delivers reliable performance in challenging environments where barcodes may be dirty, damaged, or have low contrast. The device integrates seamlessly into automated workflows, offering fast and precise code reading, versatile connectivity, and optimized optical design. Its compact structure and durable build make it ideal for continuous operation in demanding industrial applications such as warehouse automation, production lines, and material handling systems.

Key Features:

- Exceptional algorithm performance, effectively handling barcode contamination, damage, and-low-contrast conditions.
- Built-in decoding algorithm with high recognition rate and fast speed
- Supports saving, loading, and switching between multiple sets of user parameters
- Integrated aviation connector with rich I/O interfaces
- Equipped with M12 fixed-focus lens, supporting large field-of-view code reading and positioning

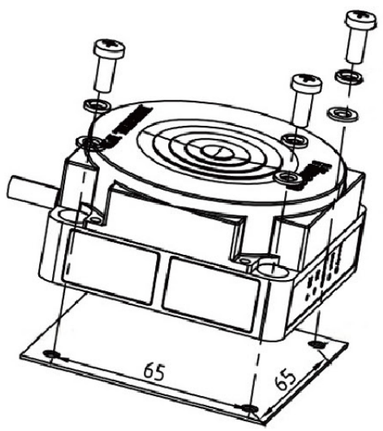


Model	QR Navigator
Focal Length	3.37 mm
Working Distance	100 mm
FOV	110 × 93 mm
Max. Reading Speed	125 codes/sec
FOV Angle	57.6° (H) × 49.9° (V)
Depth of Field	±20 mm
Frame Rate	120 fps
Sensor Type	CMOS, Global Shutter
Accuracy	0.1° / 0.1 mm
Interface	Ethernet (100 Mbps), RS485, I/O
Pixel Size	5.4 µm × 5.4 µm
Function	DM-12&DM-14, DM4x4
Weight	225 g
IP Ratings	IP65
Dimensions	60 × 60 × 43 mm

Perception

RFID

The AB-RFID-1S is a high-performance RFID reader tailored for industrial automation, including AGV (Automated Guided Vehicle) systems.



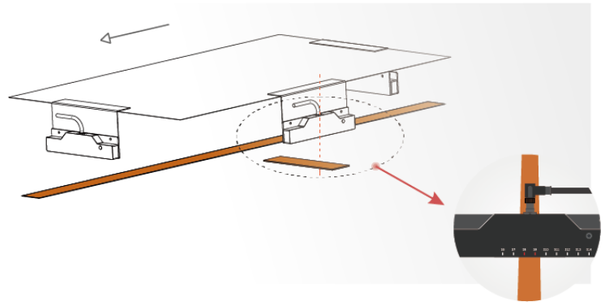
Model	Item	AB-RFID-1S	AB-RFID-1SN
Performance Parameter	Read-write Distance	0-150 mm (subject to label size and environment)	0-150 mm (subject to label size and environment)
	Configurable Read/Write Byte Length	Configurable to 4 or 8 bytes	Configurable to 4 or 8 bytes
	Signal Strength Detection Level	RSSI signal strength detection with 0-7 levels	RSSI signal strength detection with 0-7 levels
	Label Moving Speed	≤ 3 m/s	≤ 3 m/s
Basic Parameter	Interface	RS232-Hs,RS485-Hs,Rs485-modbus,CAN-Hs	RS232-Hs,RS485-Hs,CANopen
	Working Mode	Supports inquiry mode	Supports inquiry mode
		Trigger mode for card reading	Trigger mode for card reading
		Timed broadcast mode	Timed broadcast mode
	Radio Frequency Standard	ISO15693	ISO15693
	Indicator Lights	5*LED	5*LED
	Cable Length	1.5 m	1.5 m
	IP Ratings	IP65	IP65
Electrical Parameter	Working Voltage	DC 12-36V	DC 12-36V
	Carrier Frequency	13.56 MHz	13.56 MHz
Environmental Parameter	Temperature	-10℃ - 50 ,indoor	-10℃ - 50 ,indoor
	Humidity	< 80% Rh ,without codensation and frosting	< 80% Rh ,without codensation and frosting
	Medium Environment Requirements	No corrosives, flammables, dust, radiation, or strong fields; unsuitable for vacuum.	No corrosives, flammables, dust, radiation, or strong fields; unsuitable for vacuum.

Perception

Magnetic

Magnetic Sensor-8/16/16pro

The AB-MGS Series high-precision magnetic navigation sensors offer a detection accuracy of 1 mm, making them especially suitable for high-precision magnetic strip navigation. By detecting the relative position of the magnetic field, they enable AGVs to achieve more accurate auxiliary positioning and docking, resulting in superior navigation, positioning, and parking precision.



Model	Item	AB-MGS-080N	AB-MGS-160N	AB-MGS-160ND
Performance Parameter	Detection Height	10-50 m	10-50 m	10-50 m
	Detection Range	±70 mm	±75 mm	±75 mm
	Detection Accuracy	3 mm	3 mm	1 mm
	Number of Output Digital Quantity Points	16-bit digital output points	16-bit digital output points	16-bit digital output points
	Distance between Detection Points	20 mm	10 mm	10 mm
	Sensor Sensitivity	0-9 Levels (Configurable)	0-9 Levels (Configurable)	0-9 Levels (Configurable)
	Induction Polarity	N-pole,S-pole,NS-pole (Configurable)	N-pole,S-pole,NS-pole (Configurable)	N-pole,S-pole,NS-pole (Configurable)
	Detection Signal	N/S pole magnetic field signal	N/S pole magnetic field signal	N/S pole magnetic field signal
	Detection Range of Magnetic Field Intensity	1.5 to 95 Gauss	1.5 to 95 Gauss	1.5 to 95 Gauss
	Magnetic Strip Detections Number	3	3	3
Electrical Parameter	Rated Voltage	24V ± 10%	24V ± 10%	24V ± 10%
	Woriking Voltage	10 - 32V	10 - 32V	10 - 32V
	Working Current	< 20mA (Typical Value)	< 20mA (Typical Value)	< 20mA (Typical Value)
	Power	< 0.5W	< 0.5W	< 0.5W
Basic Parameter	Interface	RS232,RS485,Modbus,CAN	RS232,RS485,Modbus,CAN	RS232,RS485,I/O,CANOPEN
	Magnetic Strip Position Deviation Data	Supported	Supported	\
	Magnetic Field Strength Detection Data	Supported	Supported	\
	Position Output	Supported	Supported	Supported
	Switch Signal Output	Supported	Supported	\
	Strength Signal Output	Supported	Supported	Supported
	Branch Selection Function	Supported (Left / Straight / Right commands)	Supported (Left / Straight / Right commands)	Supported (Left / Straight / Right commands)
	LED	Red,Green	Red,Green	Red,Green
	Cable Length	Standard: 1.5 meters (Optional: 3 meters, 6 meters)	Standard: 1.5 meters (Optional: 3 meters, 6 meters)	Optional
	Housing Material	Aluminum alloy	Aluminum alloy	Aluminum alloy
	Protection Class	IP65	IP65	IP65
Environmental Parameter	Temperature	-10℃~50℃ ,indoor	-10℃~50℃ ,indoor	-10℃~50℃ ,indoor
	Humidity	< 80% RH, non-condensing and frost-free	< 80% RH, non-condensing and frost-free	< 80% RH, non-condensing and frost-free

Perception

Magnetic

Magnetic Sensor Bar-16&32&48&64

The IP65 protection, low power consumption, and software-configurable sensitivity make this product ideal for precise navigation and positioning tasks.

Detection Span
640mm/480mm/320mm/160mm

Detection Accuracy
1mm

Detection Height
0 - 50mm

Detection Points
64/48/32/16 points

Model	Item	AB-MLS-160N	AB-MLS-320N	AB-MLS-480N	AB-MLS-640N
Performance Parameter	Detection Height	0 - 50mm (@ 90 Gauss magnetic stripe)	0 - 50mm (@ 90 Gauss magnetic stripe)	0 - 50mm (@ 90 Gauss magnetic stripe)	0 - 50mm (@ 90 Gauss magnetic stripe)
	Detection Range	±75 mm	±155 mm	±235 mm	±315 mm
	Detection Accuracy	1 mm	1 mm	1 mm	1 mm
	Number of Detection Points	16	32	48	64
	Distance between Detection Points	10 mm	10 mm	10 mm	10 mm
	Sensor Sensitivity	0-9 Levels (Configurable)	0-9 Levels (Configurable)	0-9 Levels (Configurable)	0-9 Levels (Configurable)
	Induction Polarity	N-pole,S-pole,NS-pole (Configurable)	N-pole,S-pole,NS-pole (Configurable)	N-pole,S-pole,NS-pole (Configurable)	N-pole,S-pole,NS-pole (Configurable)
	Detection Signal	N/S pole magnetic field signal	N/S pole magnetic field signal	N/S pole magnetic field signal	N/S pole magnetic field signal
	Response Time	5 ms	5 ms	5 ms	5 ms
	Basic Error	1 mm	1 mm	1 mm	1 mm
	Detection Magnetic Field Strength Range	1.5-165 Gauss	1.5-165 Gauss	1.5-165 Gauss	1.5-165 Gauss
	Number of Supported Magnetic Strips	3	3	3	3
Electrical Parameter	Rated Voltage	24V ± 10%	24V ± 10%	24V ± 10%	24V ± 10%
	Working Volatge	DC 12-36V	DC 12-36V	DC 12-36V	DC 12-36V
	Working Current	Typical < 20 mA	Typical < 20 mA	Typical < 20 mA	Typical < 20 mA
	Power	≤ 7W	≤ 7W	≤ 7W	≤ 7W
Basic Parameter	Interface	RS232,RS485,Modbus,CAN	RS232,RS485,Modbus,CAN	RS232,RS485,Modbus,CAN	RS232,RS485,Modbus,CAN
	Recommended Magnetic Rail Specification	Width: 30/50 mm, Thickness: 1.2 mm	Width: 30/50 mm, Thickness: 1.2 mm	Width: 30/50 mm, Thickness: 1.2 mm	Width: 30/50 mm, Thickness: 1.2 mm
	Recommended Magnetic Strip Specification	10-30mm in diameter	10-30mm in diameter	10-30mm in diameter	10-30mm in diameter
	Magnetic Strip Position Deviation Data	Supported	Supported	Supported	Supported
	Magnetic Field Strength Detection Data	Supported	Supported	Supported	Supported
	Position Output	Supported	Supported	Supported	Supported
	Switch Signal Output	Supported (for switching value output only)	Supported (for switching value output only)	Supported (for switching value output only)	Supported (for switching value output only)
	Track Selection Function	Supported (Left branch, Straight, Right branch commands)	Supported (Left branch, Straight, Right branch commands)	Supported (Left branch, Straight, Right branch commands)	Supported (Left branch, Straight, Right branch commands)
Environmental Parameter	Temperature	-10℃ - 50℃ ,indoor	-10℃ - 50℃ ,indoor	-10℃ - 50℃ ,indoor	-10℃ - 50℃ ,indoor
	Humidity	< 80% RH, non-condensing and frost-free	< 80% RH, non-condensing and frost-free	< 80% RH, non-condensing and frost-free	< 80% RH, non-condensing and frost-free
	Background Magnetic Field	< 1Gauss	< 1Gauss	< 1Gauss	< 1Gauss

05 Vehicle Control

AB-MC-IPC

The High-Performance Embedded Intelligent Controller features a modular design with integrated high-performance CPU and GPU, supporting artificial intelligence (AI) computing. Specifically engineered for AGV (Automated Guided Vehicle) and AMR (Autonomous Mobile Robot) systems, its fanless structure and compact, robust enclosure make it ideal for high-load industrial applications.

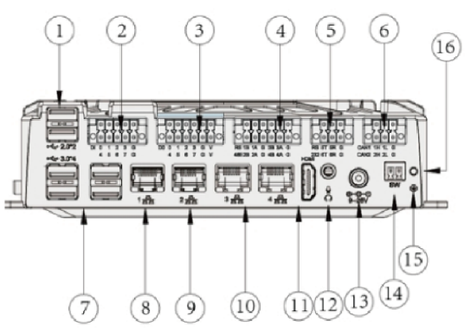
Key Features

Modular CPU Design
Supports Intel 11th Gen Core i7/i5 and Celeron J1900 processors, catering to different performance requirements.

Extensive I/O Interfaces
Offers up to 4 Ethernet ports, 6 serial ports (RS232/RS485), 16-channel digital I/O (DIO), CAN bus, GPIO, and supports EtherCAT bus motion control.

Flexible Storage Options
Accommodates 2.5" SATA III HDD/SSD and M.2 SSD with customizable capacity for large-scale data storage.

Wireless Networking
Supports 4G, Wi-Fi, and Bluetooth, enabling easy device connectivity and data transmission.



① USB 2.0*2
② 8-Channel Digital Input
③ 8-Channel Digital Output
④ PS484 1/2/3/4
⑤ RS232 5/6
⑥ CAN 1/2
⑦ USB3.0 *4
⑧ USB3.0 *4
⑨ LAN2
⑩ LAN3 + LAN4 (Optional)
⑪ HDMI
⑫ Mic + Line out
⑬ +9 – 28V DC IN
⑭ Remote switch/ Physical switch
⑮ GND
⑯ UPS Expansion slot (Optional)

Model	AB-MC-IPC-M20-I5	AB-MC-IPC-M20-I7
Operating System	Linux Ubuntu (Windows Optional, with separate License)	
System Performance	Processor: Intel@ 11th Core™ i5 1135G7 2.4GHz, UP to 4.2GHz, 8M Cache, TDP 12-28W	Processor: Intel@ 11th Core™ i7 1165G7 2.8GHz, UP to 4.7GHz, 12M Cache, TDP 12-28W
	Memory: Supports DDR4 3200 MHz, up to 32 GB (single memory slot)	Memory: Supports DDR4 3200 MHz, up to 32 GB (single memory slot)
	Storage: 1×2.5" SATAIII HDD&SSD+M.2(2242 SATA)	
Graphic	Intel Iris Xe Graphics, DirectX12.1, OpenGL 4.6, 1 x HDMI, resolution 4096*2304@60Hz	
Interface	Network: LAN1/2: Intel i211 10/100/1000Mbps, supports Wake-on-LAN LAN1/2/3/4: Intel i210 10/100/1000Mbps, Support EtherCAT agreement and internet wake up.(Optional)	
	Optional: 3 x COM, 6 x COM, 10 x COM(COM 1/2 - 3 kV optical isolation, configurable via BIOS for RS-232/485; COM 3 to COM 10: RS-232)	
	USB: 4 x USB3.0, 2 x USB2.0	
	Others: 1 x Mic-in, 1 x Line-out, 1 x HDMI	
	DI/DO: 8 x DI, 8 x DO	
Voltage	+12 - 28V DC(Supports Overvoltage and Reverse polarity Protection)	
Power Consumption	Maximum power consumption 65W (i7 1165G7 CPU/8G Memory)	
Cooling Method	Fanless, Die-cast aluminum integrated heat dissipation or copper tube heat dissipation (i5 and above)	
Installation	Embeded Mounting/DIN Rail Mounting/Wall Mounting	
Dimensions	173*52*121mm (length*width*height)	
Environment	Electromagnetic Compatibility: IEC60068-2-64	
	Working Environment: -20 - 50℃ (optional SSD), 0 - 40℃ (2.5" HDD)	
	Storage Temperature: -30 - 70℃	
	Vibration: with SSD: 3Grms EN60068-2-27:2009 Random vibration 5-500HZ, half an hour per axis	
Net Weight	1.2 kg	
Backup UPS	Optional (2500mAH Li-ion battery, can work continuously for 30 minutes after power off at 25℃ ambient temperature)	
Network Modem	Optional (Wifi/4G LTE/5G)	

06 Other Components

To ensure safe, efficient, and reliable operation of Automated Guided Vehicles (AGVs), a wide range of auxiliary components are required. These "Other Components" serve critical roles in enhancing system performance, improving human-machine interaction, and ensuring workplace safety. At ATOMBOTIX, we offer a comprehensive selection of peripheral products designed for industrial-grade AGV platforms.

▶ Why Safety Matters in AGV Systems

Protecting People

- Prevents accidents and injuries in workplaces shared by humans and AGVs.
- Safety devices (bumpers, warning lights, audio alarms) act as the first line of defense.

Protecting Assets and Goods

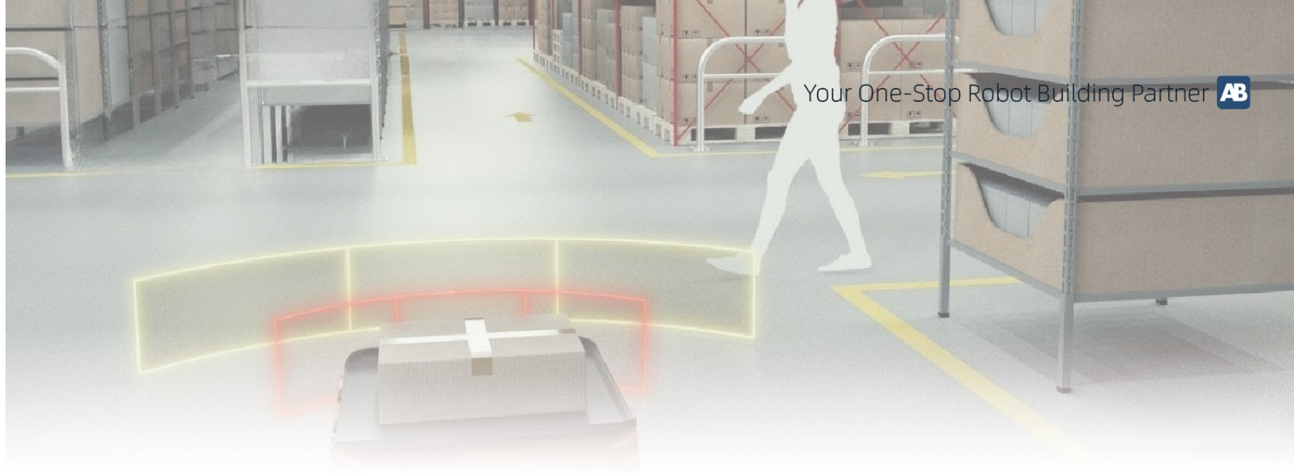
- Avoids costly collisions that can damage AGVs, cargo, and infrastructure.
- Reduces maintenance expenses and prolongs equipment lifetime.

Enhancing Efficiency

- Minimizes unplanned stops and downtime.
- Improves workflow with clear audio-visual warnings and network monitoring.

Compliance and Standards

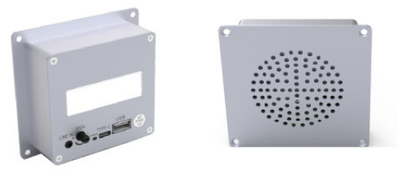
- Meets international safety regulations such as ISO 3691-4 and CE certification.
- Ensures AGVs are legally deployable in global markets.



Audio

- Application:
  Used in AGVs to provide audible alerts during start-up, movement, or fault conditions, ensuring safety in busy industrial environments.
- Function:
  Generates sound signals to warn nearby personnel of AGV status changes, reducing collision risks and enhancing workplace awareness.

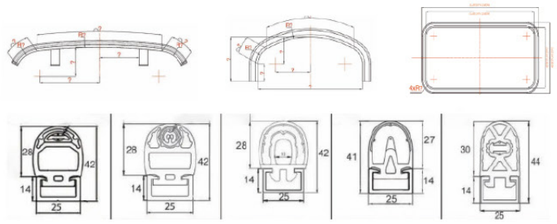
Model	AB-AD100-5 W
Power	8Ω5 W
Dimensions	100 × 100 × 33.5 mm
Working Voltage	DC 5 V
Shell Material	Aluminium Alloy



Bumper

- Application:
  Installed on AGV body edges as a primary physical safety mechanism to prevent collisions.
- Function:
  Immediately triggers an emergency stop when contact is made with a person or obstacle, ensuring operator and equipment safety.

Model	AB-BS-RC-Lxxx
Triggering Force Value	8-25 N
Trigger Distance	2-5 mm
Sheating Material	EPDM
Hits	20,000 times



LED

- Application:
  Provides visual signals to indicate AGV operating status, battery level, or error messages.
- Function:
  Communicates AGV conditions through color-coded lights or digital display, enabling operators to quickly assess system state.

Model	AB_LED01
Single Section Length	100 mm
Communication Interface	RS485
Blinking Order	Fault Priority
Controller System	SD/DMX controller



Warning Light

- Application:
  Mounted on AGVs for 360° visual warnings, improving safety in areas with heavy traffic and limited visibility.
- Function:
  Emits bright flashing or rotating light signals to indicate AGV movement, emergency stop, or system fault.

Model	Warning Light Series
Power	18-30 W
Working Voltage	DC 12-80 V
Shape	Dot/Arrow/Arc/Bar
Cycle Time	30,000 hs


Network

- Application:
  Provides wireless or wired communication capability for AGVs to connect with central control systems or other vehicles.
- Function: Enables real-time data transmission for navigation, task scheduling, and fleet coordination.

Model	TL-CPE1300D
Working Temp	-40 °C - 75 °C
Industrial Protection	IEC/EN 61000-4
Supported Bandwidth	2.4G, 5G AC1300
Industrial Port	DB9

Solution:

Mobile Robot Retrofitting | Customized Robot Building | Mobile Robot Kit

Solution

Mobile Robot Retrofitting

Our Retrofitting & Refurbishing Service helps you transform aging or manual industrial vehicles—such as forklifts, pallet trucks, and towing tractors—into fully autonomous AGVs equipped with modern navigation, safety, and fleet-management software tools.


WHY RETROFIT

- High cost of new AGVs
- Brown field space
- System integration pain

Our Solution

- Retrofit fleet to save CapEx
- Flexible Navigation & 3D safety systems
- API library & Workflow integration

Control System Upgrade
Replace or optimize controllers, motion systems, and drive units for higher precision and smoother path planning.

Navigation & Positioning Optimization
Upgrade to laser SLAM or hybrid navigation for greater adaptability.

Enhanced Safety Systems
Add or replace 2D/3D LiDAR, obstacle detection sensors, and safety PLCs for safe human-robot collaboration.

Power & Endurance Improvement
High-performance batteries, BMS, and charging systems with fast/auto-charging support.

Solution

Mobile Robot Retrofitting

▶ Support Vehicle Types:

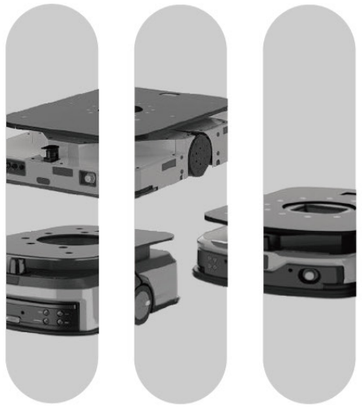
We provide retrofit solutions for a broad spectrum of industrial vehicles — from forklifts, reach trucks, and pallet movers to cranes, yard tractors, and specialized material handling equipment.

Legacy AGV Compatibility

Retrofit solutions for both legacy AGVs and manually operated vehicles to enable automation.

Modular Upgrades

Flexible, workflow-specific modules tailored to different factory layouts and operational needs.



Electric forklifts & pallet tucks

Material Transport AGV

Heavy Duty AGVs

Delivery Robot

▶ Why Choose Us

We provide end-to-end retrofit expertise, from core technology to on-site execution

Mature centralized controller & software stack

Extensive experience in non-standard AMR retrofitting

On-demand local implememtation support

Efficient Supply Chain, Short lead time

Fast, flexible, and scalable AGV solutiontailored to you

Solution

Customized Robot Building

Fast (30–90 day) delivery of modular, application-specific AGVs — no vendor lock-in, open architecture, and cost-effective supply chain from China.

▶ From AGV/AMR to More: Flexible Customization Services

Outdoor Robot

Cleaning Robot

Mobile Manipulator

ISO/GMP compliant design

- Semiconductor
- Logistics
- Food
- Pharmaceutical

▶ Industries We Serve

We deliver AGV and AMR solutions across diverse industries, adapting to each sector's unique needs. From high-volume logistics to precision manufacturing and public services, we ensure seamless integration, reliable performance, and strong ROI.

10+
supported industrial protocols

5+
industry-specific robot designs delivered

<2 week
on-site deployment to production

Complete plug-and-play for rapid AGV upgrades

Solution

Mobile Robot Kit

Pre-configured kit with all essential hardware and software, allowing customers to build fully functional AGVs in-house with minimal setup


Controller

+


Navigation

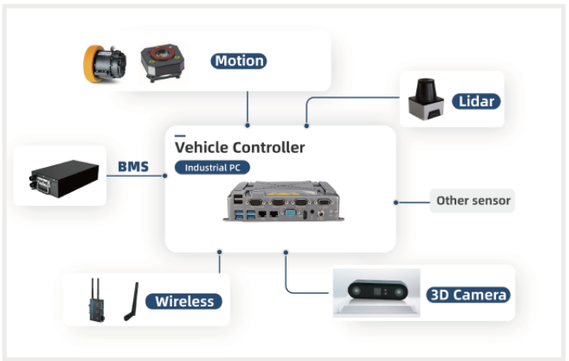
+

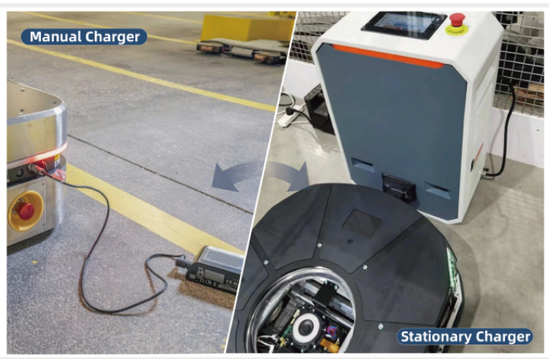

Fleet Management

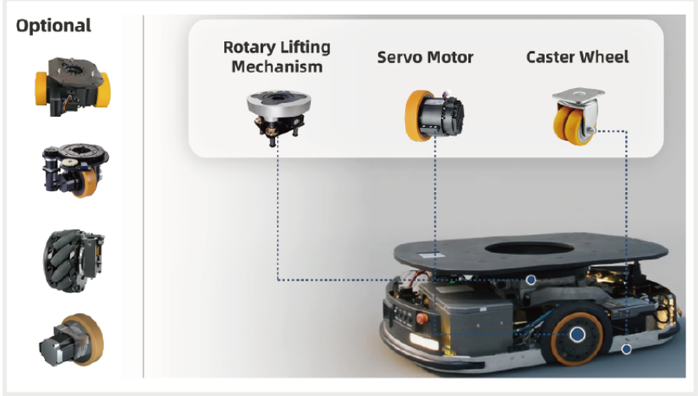
▶ Versatile AGV Development Platform

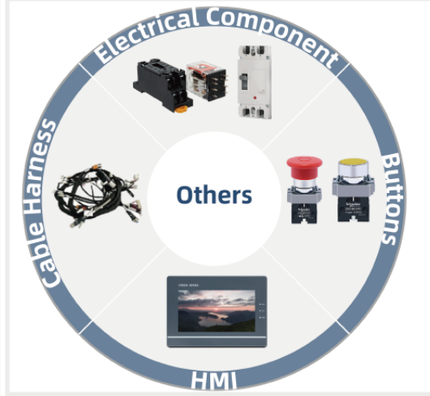
Supports multiple chassis designs, navigation methods, and payload configurations, enabling rapid prototyping and scaling from pilot units to full production in diverse industrial environments

▶ What Makes Our Kit Different









▶ Curious how our kit delivers true plug-and-play AGV building?

Here's a real example: the complete component list for a 600 kg payload AGV

Formfactor: Platform lifter with rotary lifting pad;

Kinematic: Differential Drive;

Max Payload Capacity: 600kg ±

Retad Speed: 2.14m/s Operating Hours: 8 hr ±;

Contact Charging (Wireless Optional);AI: Rack leg recognition, Obastacle Avoidence;

Note: If targeting EU & US markets, functional safety design is advised. Please consult your account manager for details.

Category	Part No.	Item	Note	Photo	Qty.
Main Control	AB-MC-IPC-M20-IX	Main Controller	Localization & Navigation， Kinematic Control, Motion Planing， Sensor Processing, Object Recognition, Open API, Behavior Programming		1
Perception	AB-LD-B01-R50-DRJ45	Lidar	For Localization & Obastacle Detection		2
	AB-DaBai DCW 2	3D camera	For Spacial Obastacle Detection 3D ranger optional		2
	AB-BS-XXXX(Customized)	Pressure Sensor Strip	Pressure Sensor Strip for front & back as last level safety		Customized
Motion	AB-SJX-4680-400-48-50-1000	Lifting Mechanism	Module with Rotation Mechanism & Spiral Lifting Structure - For Light and Medium-duty Lifting		1
	iWMC10411-04023-A180-MBDT	Integrated Servo Drive Wheel Assembly	As a travel motor, it performs motion functions and is responsible for the vehicle's driving and steering		2
	AB-FW-D106-C300	Universal Wheel	Caster Wheel for support		4
Network	TL-CPE1300D	Wireless Modem	Industrial Modem for Wifi		1
Energy	AB-BT-LFP-48V-23AH-MOD	Battery	BMS Included/CAN/RS485		1
	AB-WC-Brush	Charging Connector Terminal	Charging Brush		1
	AB-DC-DDR-120C-24	DC-DC	Step down voltage to 24V for 24V-rated device power supply		1
	AB-HD1200WP LP24	Manual Charger	Manual Charger-1200W		1
	AB-CC-48V50A-YTSK	Auto Charging Station	Automatic Charger		1
Pheripharal	ABLS-XXXX(Customized)	LED Strip	LED strip for the Robot Status: Operation Status, Turning Signal etc.		4
	ABS5W02	Internal Magnetic Speaker	Speaker for Robot Status and warning		1
	XB2BA55C	Buttons	Robot Switch & Reset		2
	XB2BS542C	E-stop	Front, Back & Sides		3
	AB-AS-2P-250A	Air Switch	Master switch, Protect the vehicle's electrical system from overcurrents and short circuits		1
	AB-RE-48V-8PIN	Relay	Control for charging interface(wireless & contact charging)		1
	AB-TB-XX	Terminal Block	Improved electrical wiring & cable management		Optional
	7.0 inches HMI	HMI	Provide interface visualization design, real-time status monitoring, and fault diagnosis & alarm functions.		1
	AB-CCR-48V-100A	Charging Connector	The module is suitable for charging interfaces with manual charging mode		1

»

- **Throughout this solution, we've explored the tools, strategies, and insights that empower your automation journey. By combining cutting-edge technology with practical guidance, we aim to simplify complex processes and unlock new opportunities.By embracing innovation, we can achieve lasting impact.**
- **Let's drive the future of automation, together.**