



WR

Product Line-up

Autonomous Mobile Robots
Autonomous Mobile Manipulators
Battery Changing System
Robot Hand



WR300CV

Internal Transportation platform
with Conveyor System

Specification

Item	Contents	Specifications
Robot Basic Specification	Navigation Type Dimension (W x L x H, mm) Payload(kg) Driving System Wheel(Material, Size) Loading Method Equipment Docking Method	SLAM 630 x 825 x 890 300 Differential Drive Urethane, Driving 6"(15cm) x 2, Sub" x 4 Auto Conveyor Front or Side Docking
Performance	Stop Accuracy Docking Accuracy(V Marker) Operation Time Minimum Drivable Aisle Width Max Speed(m/sec) Average Speed (m/sec) Rotating Diameter Max. Rotation Speed(90°, sec)	± 50mm ± 10mm 12h(No Payload), 10h(Full Payload) 930 mm 1.2 About 0.7m/sec 1,036 mm 1
Safety & Sensor Device	Emergency LiDAR Camera Minimum Obstacle Detection Size	Up to 2EA Sick TIM561 2EA Intel Realsense 3D Depth Camera (2EA : Front) 30 mm
Alarm Sound & LED	Alarm Warning & Status Indication Display	Sound & LED LED LCD Touch
Battery & Charging Station	Battery Type, Capacity Battery Monitoring Charing Time Charging Method Charger Power(In/Out) Charging Station Size	Li-Ion, DC24V / 50Ah SOC, SOH, Temp, Remaining Capacity, Available Energy About 1~1.5Hr Auto / Manual AC110~220V 10A / DC 29V 45A 575 x 313 x 760mm
Environment	Ambient Operating Temperature(°C) Floor Requirements Maximum Slope(Max Payload 조건)	0 to +40 No Water, No oil, No Dirt Max. 5°
Communication	Network Equipment Communication	WIFI 2.4Ghz, 5GHz Optional Support LTE/5G Hybrid PIO



WR300LD

Internal Transportation platform
for Semi-Automated Factory

Specification

Item	Contents	Specifications
Robot Basic Specification	Navigation Type Dimension (W x L x H, mm) Payload(kg) Driving System Wheel(Material, Size) Loading Method Moving Method	SLAM 630 x 825 x 700 300 Differential Drive Urethane, Driving 6"(15cm) x 2, Sub" x 4 Manual LCD touch
Performance	Stop Accuracy Docking Accuracy(V Marker) Operation Time Minimum Drivable Aisle Width Max Speed(m/sec) Average Speed (m/sec) Rotating Diameter Max. Rotation Speed(90°, sec)	± 50mm ± 10mm 12h(No Payload), 10h(Full Payload) 930 mm 1.2 About 0.7m/sec 1,036 mm 1
Safety & Sensor Device	Emergency LiDAR Camera Minimum Obstacle Detection Size	Up to 2EA Sick TIM561 2EA Intel Realsense 3D Depth Camera (2EA : Front) 30 mm
Alarm Sound & LED	Alarm Warning & Status Indication Display	Sound & LED LED LCD Touch
Battery & Charging Station	Battery Type, Capacity Battery Monitoring Charing Time Charging Method Charger Power(In/Out) Charging Station Size	Li-Ion, DC24V / 50Ah SOC, SOH, Temp, Remaining Capacity, Available Energy About 1~1.5Hr Auto / Manual AC110~220V 10A / DC 29V 45A 575 x 313 x 760mm
Environment	Ambient Operating Temperature(°C) Floor Requirements Maximum Slope(Max Payload 조건)	0 to +40 No Water, No oil, No Dirt Max. 5°
Communication	Network	WIFI 2.4Ghz, 5GHz Optional Support LTE/5G

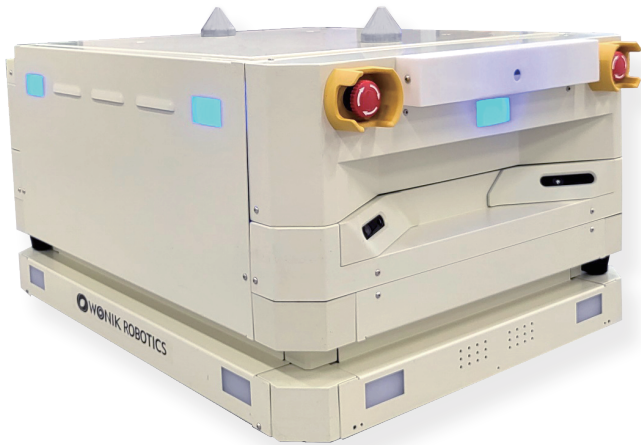


WR300CB

Internal Transportation Platform
for Semi-Automated Factory

Specification

Item	Contents	Specifications
Robot Basic Specification	Navigation Type Dimension (W x L x H, mm) Payload(kg) Driving System Wheel(Material, Size) Loading Method Moving MethodT	SLAM 630 x 825 x 940 300 Differential Drive Urethane, Driving 6"(15cm) x 2, Sub" x 4 Manual LCD touch or Joystick
Performance	Stop Accuracy Docking Accuracy(V Marker) Operation Time Minimum Drivable Aisle Width Max Speed(m/sec) Average Speed (m/sec) Rotating Diameter Max. Rotation Speed(90°, sec)	± 50mm ± 10mm 12h(No Payload), 10h(Full Payload) 930 mm 1.2 About 0.7m/sec 1036 mm 1
Safety & Sensor Device	Emergency LiDAR Camera Minimum Obstacle Detection Size	Up to 2EA Sick TIM561 2EA Intel Realsense 3D Depth Camera (2EA : Front) 30 mm
Alarm Sound & LED	Alarm Warning & Status Indication Display	Sound & LED LED LCD Touch
Battery & Charging Station	Battery Type, Capacity Battery Monitoring Charing Time Charging Method Charger Power(In/Out) Charging Station Size	Li-Ion, DC24V / 50Ah SOC, SOH, Temp, Remaining Capacity, Available Energy About 1~1.5Hr Auto / Manual AC110~220V 10A / DC 29V 45A 575 x 313 x 760mm
Environment	Ambient Operating Temperature(°C) Floor Requirements Maximum Slope(Max Payload 조건)	0 to +40 No Water, No oil, No Dirt Max. 5°
Communication	Network	WIFI 2.4Ghz, 5GHz Optional Support LTE/5G



WR300LF

Internal Cart Transportation
Platform with Hook Lift

Specification

Item	Contents	Specifications
Robot Basic Specification	Navigation Type Dimension (W x L x H, mm) Payload(kg) Driving System Wheel(Material, Size) Loading Method	SLAM 630 x 825 x 450 300 Differential Drive Urethane, Driving 6"(15cm) x 2, Sub" x 4 Lift
Performance	Stop Accuracy Docking Accuracy(V Marker) Operation Time Minimum Drivable Aisle Width Max Speed(m/sec) Average Speed (m/sec) Rotating Diameter Max. Rotation Speed(90°, sec)	± 50mm ± 10mm 12h(No Payload), 10h(Full Payload) 930 mm 1.2 About 0.7m/sec 1,036 mm 1
Safety & Sensor Device	Emergency LiDAR Camera Minimum Obstacle Detection Size	Up to 3EA Sick TIM561 2EA Intel Realsense 3D Depth Camera (2EA : Front) 30 mm
Alarm Sound & LED	Alarm Warning & Status Indication Display	Sound & LED LED LCD Touch
Battery & Charging Station	Battery Type, Capacity Battery Monitoring Charing Time Charging Method Charger Power(In/Out) Charging Station Size	Li-Ion, DC24V / 50Ah SOC, SOH, Temp, Remaining Capacity, Available Energy About 1~1.5Hr Auto / Manual AC110~220V 10A / DC 29V 45A 575 x 313 x 760mm
Environment	Ambient Operating Temperature(°C) Floor Requirements Maximum Slope(Max Payload 조건)	0 to +40 No Water, No oil, No Dirt Max. 5°
Communication	Network	WIFI 2.4Ghz, 5GHz Optional Support LTE/5G



WR500LF

Low-height and Heavy Rated Load
AMR with Pallet Lift Module

Specification

Item	Contents	Specifications
Basic Specification	Navigation Type	SLAM
	Dimension (W x L x H, mm)	950 x 1310 x 310 (/W Lift Module)
Performance	Payload(kg)	500kg
	Driving System	Differential Type
	Wheel(Material, Size)	Urethane, Driving 6"(15cm) x 2, Sub" x 4
	Loading Method	Pallet Lift (Stroke 100mm)
	Stop Accuracy	± 30mm
Safety & Sensor Device	Docking Accuracy	± 10mm
	Operation Time	12h(No Payload), 10h(Full Payload)
	Minimum Drivable Aisle Width	1,450mm
	Max Speed(m/sec)	1
	Average Speed (m/sec)	About 0.7m/sec
	Rotating diameter	1,618 mm
	Max. Rotation Speed(90°, sec)	1
Indicator	Emergency	Up to 2EA
	LiDAR	Sick Nano Scan3 Safety System (2EA)
	Camera	Intel Realsense 3D depth camera (2EA : Front & Rear)
	Minimum Obstacle Detection Size	30 mm
Battery & Charging Station	Alarm	Sound & LED
	Warning & Status Indication	LED
	Battery Type, capacity	Li-Ion, DC50V 50Ah (Detachable)
	Battery Monitoring	SOC, SOH, Temp, Remaining Capacity, Available Energy
	Charing Time	About 1~1.5Hr
	Charging Method	Auto / Manual
Charger Power(In/Out)	AC110~220V 10A / DC 59V 45A	
Environment	Battery Charging Station	Auto Sliding Type Charging Terminal
	Ambient Operating Temperature(°C)	0 to +40
	Floor Requirements	No Water, No oil, No Dirt
Communication	Maximum Slope(Max Payload 조건)	Max. 5°
	Network	WIFI 2.4Ghz, 5GHz with External Patch Ant. Optional Support LTE/5G



WR300M-TM

Autonomous Mobile Platform with Cobots

Specification

Item	Contents	Specifications
Robot Basic Specification	Navigation Type Dimension (W x L x H, mm) Payload(kg) Driving System Wheel(Material, Size) Manipulator	SLAM 630 x 825 x 680 (Mobile Platform) 100Kg (Mobile Platform, /w Manipulator) Differential Drive Urethane, Driving 6"(15cm) x 2, Sub" x 4 TM Manipulator (TM12) - Payload : 12Kg - Reach : 1,300mm
Performance	Stop Accuracy Docking Accuracy(V Marker) Operation Time Minimum Drivable Aisle Width Max Speed(m/sec) Average Speed (m/sec) Rotating Diameter Max. Rotation Speed(90°, sec)	± 50mm ± 10mm About 6h 930 mm 1.2 About 0.7m/sec 1,036 1
Safety & Sensor Device	Emergency LiDAR Camera Minimum Obstacle Detection Size	Up to 2EA Sick TIM561 2EA Intel Realsense 3D Depth Camera (2EA : Front) 30
Alarm Sound & LED	Alarm Warning & Status Indication Display	Sound & LED LED LCD Touch
Battery & Charging Station	Battery Type, Capacity Battery Monitoring Charing Time Charging Method Charger Power(In/Out) Charging Station Size	Li-Ion, DC24V / 50Ah SOC, SOH, Temp, Remaining Capacity, Available Energy About 1~1.5Hr Auto / Manual AC110~220V 10A / DC 29V 45A 575 x 313 x 760mm
Floor Conditions	Ambient Operating Temperature(°C) Floor Requirements Maximum Slope(Max Payload 조건)	0 to +40 No Water, No oil, No Dirt Max. 5°
Communication	Network	WIFI 2.4Ghz, 5GHz with External Patch Ant. Optional Support LTE/5G



WR300MM-TM

Autonomous Mobile Platform with Cobots

Specification

Item	Contents	Specifications
Robot Basic Specification	Navigation Type Dimension (W x L x H, mm) Payload(kg) Driving System Wheel(Material, Size) Manipulator	SLAM 700 x 950 x 810 (Mobile Platform) 100kg (Mobile Platform, /w Manipulator) Mecanum Wheel Urethane, Driving 6"(15cm) x 2, Sub" x 4 TM Manipulator (TM12) - Payload : 12Kg - Reach : 1,300mm
Performance	Stop Accuracy Docking Accuracy Operation Time Minimum Drivable Aisle Width Max Speed(m/sec) Average Speed (m/sec) Rotating Diameter Max. Rotation Speed(90°, sec)	± 5mm ± 5mm About 4h 850 mm 1 About 0.5m/sec 1,038 1
Safety & Sensor Device	Emergency LiDAR Camera Minimum Obstacle Detection Size	Up to 2EA Sick Nano Scan3 Safety System (2EA) Intel Realsense 3D Depth Camera (2EA : Front & Rear) 30 mm
Alarm Sound & LED	Alarm Warning & Status Indication Display	Sound & LED LED LCD Touch
Battery & Charging Station	Battery Type, Capacity Battery Monitoring Charing Time Charging Method Charger Power(In/Out) Battery Charging Station	Li-Ion, DC50V / 50Ah SOC, SOH, Temp, Remaining Capacity, Available Energy About 1~1.5Hr Auto / Manual AC110~220V 10A / DC 59V 45A Auto Battery Changing & SWAP System
Environment	Ambient Operating Temperature(°C) Floor Requirements Maximum Slope(Max Payload 조건)	0 to +40 No Water, No oil, No Dirt Max. 3°
Communication	Network	WIFI 2.4Ghz, 5GHz with External Patch Ant. Optional Support LTE/5G



Mecanum Wheel

WR300MM-NU

Autonomous and Flexible Mobility Platform with Cobots

Specification

Item	Contents	Specifications
Robot Basic Specification	Navigation Type Dimension (W x L x H, mm) Payload(kg) Driving System Wheel(Material, Size) Manipulator	SLAM 700 x 950 x 810 (Mobile Platform) 100kg (Mobile Platform, /w Manipulator) Mecanum Wheel Urethane, Driving 6"(15cm) x 2, Sub" x 4 NEUROMEKA Nuri12 - Payload : 12Kg - Reach : 1,434mm
Performance	Stop Accuracy Docking Accuracy Operation Time Minimum Drivable Aisle Width Max Speed(m/sec) Average Speed (m/sec) Rotating Diameter Max. Rotation Speed(90°, sec)	± 5mm ± 5mm About 4h 850 mm 1 About 0.5m/sec 1,038 1
Safety & Sensor Device	Emergency LiDAR Camera Minimum Obstacle Detection Size	Up to 2EA Sick Nano Scan3 Safety System (2EA) Intel Realsense 3D Depth camera (2EA : Front & Rear) 30 mm
Alarm Sound & LED	Alarm Warning & Status Indication Display	Sound & LED LED LCD Touch
Battery & Charging Station	Battery Type, capacity Battery Monitoring Charing Time Charging Method Charger Power(In/Out) Battery Charging Station	Li-Ion, DC50V / 50Ah SOC, SOH, Temp, Remaining Capacity, Available Energy About 1~ 1.5Hr Auto / Manual AC110~220V 10A / DC 59V 45A Auto Battery Changing & SWAP System
Environment	Ambient Operating Temperature(°C) Floor Requirements Maximum Slope(Max Payload 조건)	0 to +40 No Water, No oil, No Dirt Max. 5°
Communication	Network	WIFI 2.4Ghz, 5GHz with External Patch Ant. Optional Support LTE/5G



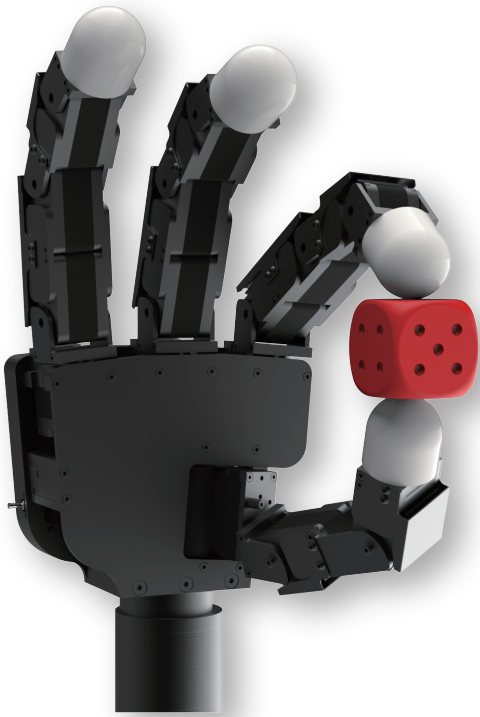
BCU

Automatic Battery Charging & SWAP System for AMR
 - Capable 24H Full time work of Mobile Robots without Battery Charge

Specification

Item	Contents	Specifications
Basic Specification	배터리교체 Size (W x L x H, mm) 충전슬롯 Battery Type, Capacity Battery Weight(Kg) 입력전원	자동, 정전보상(외부전원 공급) 900 x 1,550 x 1,350 (3Slot / 슬롯수에 따라 높이 다름) 3 Li-Ion, 25V 100A 15Kg 220VAC / 30A
Performance	충전 전압 충전 방식 배터리 충전 관리 배터리 투입출 관리 배터리 취출방식 인입부 보정 범위 인입부 보정 위치 정밀도 조작반 배터리 교체 속도	Max 29V 정전류/정전압형(CC/CV), 충전 개시 후 4단계 전류 증대 (Slow Start) 자동 충전, 만충슬롯 식별 충전레벨 모니터링 및 자동 투입출 마그넷 타입 (자동 감지/위치 보정) X축: +/-15mm, Y축: +/-15mm +/-0.2mm 터치패널 / 버튼 60초 이내
Safety & Sensor Device	비상정지 Vision	1 1 (인입 배터리 위치감지 및 보정)
Alarm Sound & LED	Alarm	4색 경광등 및 경고음
Environment	Ambient Operating Temperature(°C) Floor Requirements	0 to +40 No Water, No oil, No Dirt
Communication	Local 통신 (AMR)	RF PIO

※ 배터리 사양 및 충전 슬롯 수량 변경 가능



Allegro Hand v.4

- Light Weight and Portable Anthropomorphic Design
- Cost-Effective Dexterous Manipulation with Applications in Research and Industry
- Multiple Ready-to-Use Grasping Algorithms Capable of Handling a Variety of Object Geometries

Specification

Number of Fingers	Four (4) Fingers, Including Thumb	
Degrees of Freedom	4 Fingers x 4 = 16 (Active)	
Actuation	Type Gear Ratio Max. Torque Max. Joint Speed	DC Motor 1:369 0.70 (Nm) 0.11(sec/60 degree)
Weight	Finger Thumb Total	0.17 kg 0.19 kg 1.08 kg
Joint Resolution	Measurement Resolution (Nominal)	Potentiometer 0.002 deg
Communication	Type Frequency	CAN 333 Hz
Payload	5 (kg)	
Power Requirement	12, 24, 48Vdc / 100W	



Allegro Hand v.5

- Light Weight and Portable Anthropomorphic Design
- Cost-Effective Dexterous Manipulation with Applications in Research and Industry
- Multiple Ready-to-Use Grasping Algorithms Capable of Handling a Variety of Object Geometries

Specification

Number of Fingers	Four (4) Fingers, Including Thumb	
Degrees of Freedom	4 Fingers x 4 = 16 (Active)	
Actuation	Type	DC Motor
	Gear Ratio	180.62:1
	Max. Torque	0.35 Nm
	Max. Joint Speed	104 rpm
Mass	Finger	0.16 kg
	Thumb	0.17 kg
	Total	1 kg
Joint Resolution	Measurement Resolution	12bit Absolute Encoder 0.088 degree
Communication	Type	CAN, RS-485
	Frequency	300 Hz
Power Requirement	24V, 3A(Max.)	
OptionW	Fingertip Tactile(Pressure) Sensor	



Allegro Hand v.5

- Simple & Compact Gripper for Unstructured Object Manipulation
- Cost-Effective Dexterous Manipulation with Applications in Research and Industry
- Multiple Ready-to-Use Grasping Algorithms Capable of Handling a Variety of Object Geometries

Specification

Number of Fingers	Three(3) Fingers	
Degrees of Freedom	3 Fingers x 4 = 12	
Actuation	Type	DC Motor
	Gear Ratio	180.62:1
	Max. Torque	0.35 Nm
	Max. Joint Speed	104 rpm
Mass	Finger	0.21 kg
	Total	0.88 kg
Joint Resolution	Measurement Resolution	12bit Absolute Encoder 0.088 degree
Communication	Type Frequency	CAN, RS-485 300 Hz
Power Requirement	24V, 2.4A(Max.)	
Option	Fingertip Tactile(Pressure) Sensor	



Contact Us.

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