

L.LINE AMR INTRODUCTION

L.LINE AMR (Autonomous Mobile Robot) Product Introduction





126, Gongdan 5-ro, Jillyang-eup, Gyeongsan-si, Gyeongsangbuk-do, Republic of Korea Tel. +82 54-476-0045 Fax. +82 53-715-1645 email. office@l-line.co.kr





L.LINE will lead innovation in the e-Mobility industry as a Global Engineering company. We will create high value through technological expertise, customer-tailored solutions, and high quality.

INFORMATION

Company	L.LINE Co., Ltd		
Established	April 4th, 2014 (Incorporated in 2023)	Certification	
CEO	Jin Hyung, Kim	and Awards	
Revenue	\$6.5Mil USD	7.Wara3	
Employees	45		

- Incorporated 2023
- Venture certified, ISO9001, ISO14001
- IATF 16949, Technology certification T-3 level
- 2022 LS e-MS 1st Tier mass production partner for BDU
- 2021 Samsung Electronics partner registration

Major Clients



















AMR COMPETITIVENESS



High Performance Battery Pack





BDU (Battery Disconnect Unit)



- 24V, 48V (500W, 1KW)
- Increased charge and Discharge capability
- · Obtained safety by integrating All-in-one BDU PCB (In-house development)

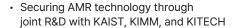


R&D Partner





Affordable AMR



- Low-cost through technological innovation
- Affordable AMR suitable for small and medium-sized enterprises



Excellent Product Development Capability

- Developed 4-legged robot, ADAS (autonomous driving) golf cart
- DoD ADD Product (Radar and Dog-type stealth project)
- · Korea Institute of Machinery and Materials (KIMM) AMR, AGV logistic robot develop
- 50+ projects involving various technology development



- L.LINE's AMR is already being used in industrial sites, and through close partnership, it is being jointly developed by incorporating feedback from onsite users.
- L.LINE is a leader in AMR services targeted at small and medium-sized enterprises.

PRODUCT OVERVIEW

Size(LxWx H)	Load capacity	Product Weight	Movement Speed	Battery Specifications	Operating Time
600X400X375(mm)) 200Kg 65Kg 1,2m/s 25.9v 40Ah, 1KW 8 hours (with maximum				8 hours (with maximum load)
Safety features	· Robot emergency stop switch · Remote emergency stop · Capable to detect moving obstacles over 20cm h				
Sensor	· 2D Lidar · Floor line detecting camera · Front camera(depth recognition)				

DIFFERENCE POINT

Category	Competitor	L.LINE	Results
Design (Internal Structure)	Complicated production process, labor intensive	Single PCB for optimized weight and space	26% lighter than competitors 20% lower production cost Minimized A/S cost
H/W (Parts, Battery)	BMS, PDU, BDU separately produced battery pack	Battery Pack with e-Fuse application, Power supply stabilization	Robot Battery Pack (Increased productivity by 20%, manufacturing costs by 30%)
S/W (Mgt. System)	Logic based command and requires SI with existing system	Increased usability (UI/UX) for simply commands through PC/Table/Mobile	Does not require SI, Simple device management

PRODUCT COMPOSITION

Hardware(AMR)		Battery Pack(Replaceable)		
	· Single PCB for Optimized weight/size		· e-Fuse applied PCB · Stable power supply · Simplified battery pack	
Software(Feel Management)		Charge Station		
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