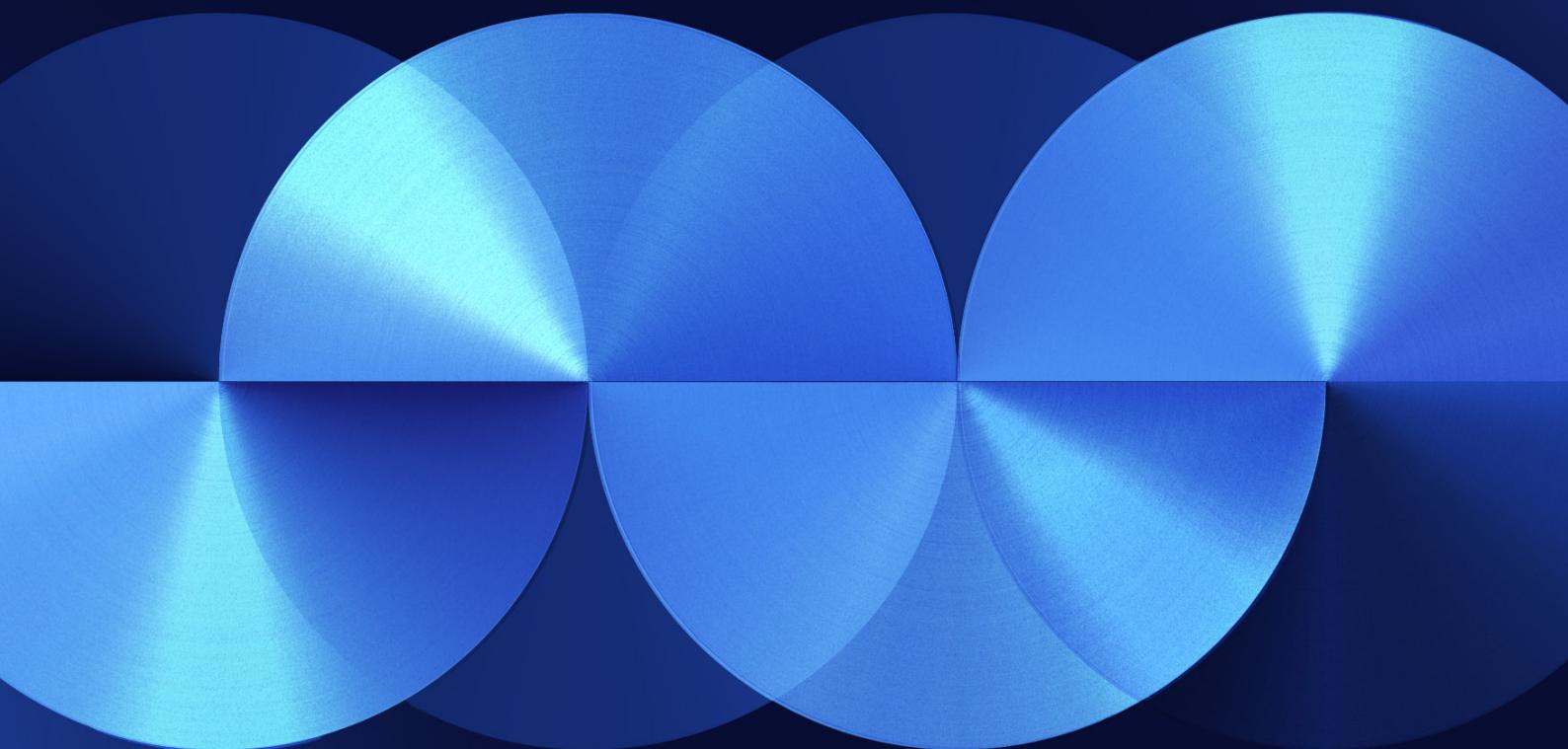


**Go anywhere,
Do anything,
For everyone.**

MobED



Advanced Open Mobile Platform

MobED : Mobile Eccentric Droid



MobED Pro

The MobED (Mobile Eccentric Droid) is an advanced mobility platform developed by the Robotics LAB at Hyundai Motor Group.

There are two models in the lineup: The MobED Pro is equipped with integrated sensors that enable stable autonomous driving, while the MobED Basic allows users to develop fully customized mobile robots, from the sensors to the top module.

Both models feature four independently controlled wheels and the innovative eccentric mechanism, allowing the robot to navigate various terrains while the orientation of the base body can be stabilized to a desired posture.

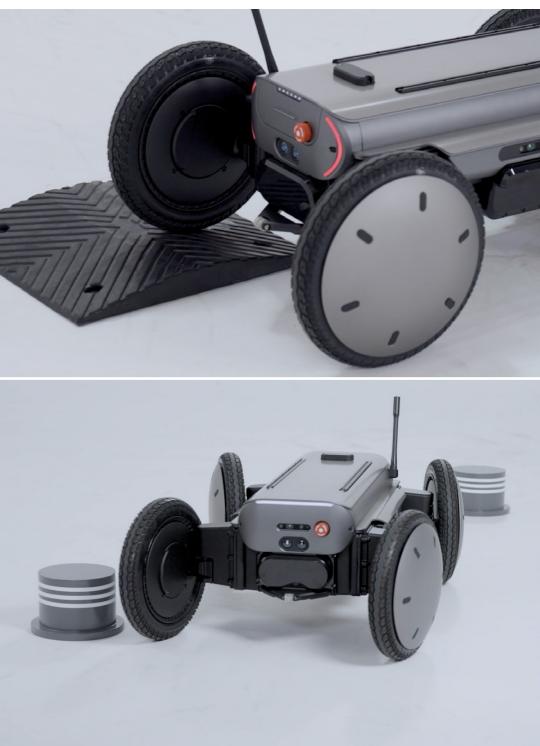
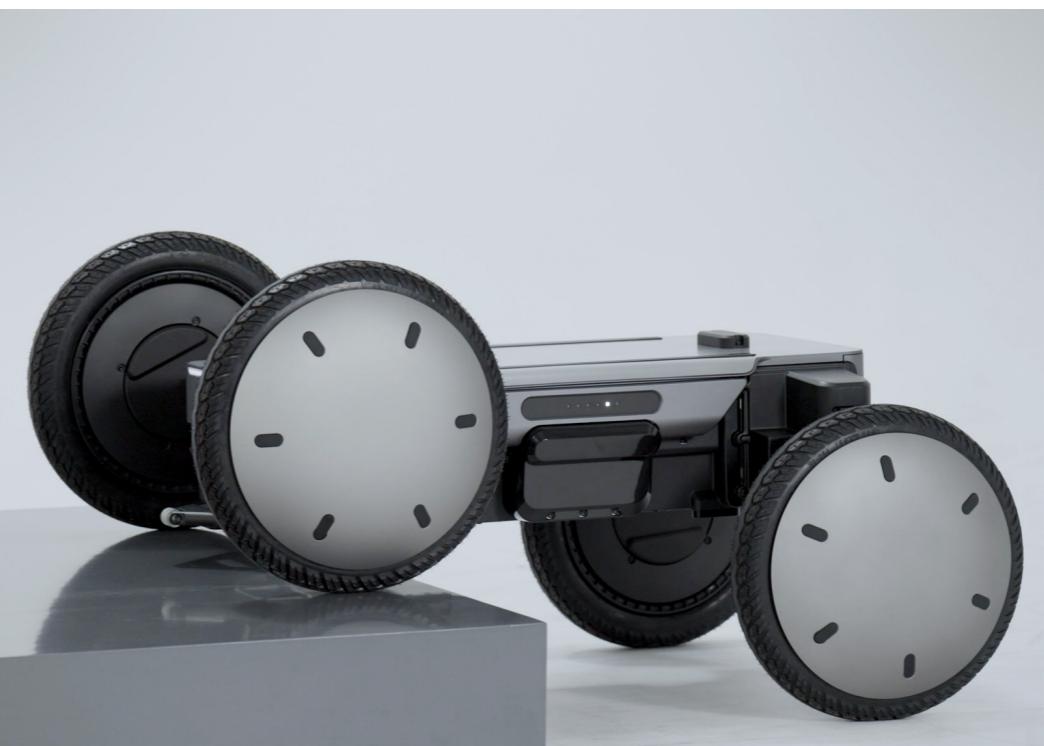
MobED Pro integrates advanced autonomous driving capabilities for mapping and localization, allowing it to map complex environments and navigate user-defined routes with safely and efficiently.

As a mobility robot platform, MobED offers a universal mounting rail and API, making it easy for anyone to develop and attach custom upper modules.

This flexibility supports a wide range of applications, including delivery, security patrols, signage and research or education.



MobED Basic



Adaptive Mobility

Freedom of Movement through a New Form of Motion

MobED's advanced dynamic motion control sets a new benchmark in mobility.

Equipped with DnL (Drive & Lift) modules that support driving and steering, MobED can adapt to different environments. MobED automatically adapts to varying environments through its eccentric actuation. It maintains a level stance, ensuring stable driving even on uneven terrain.

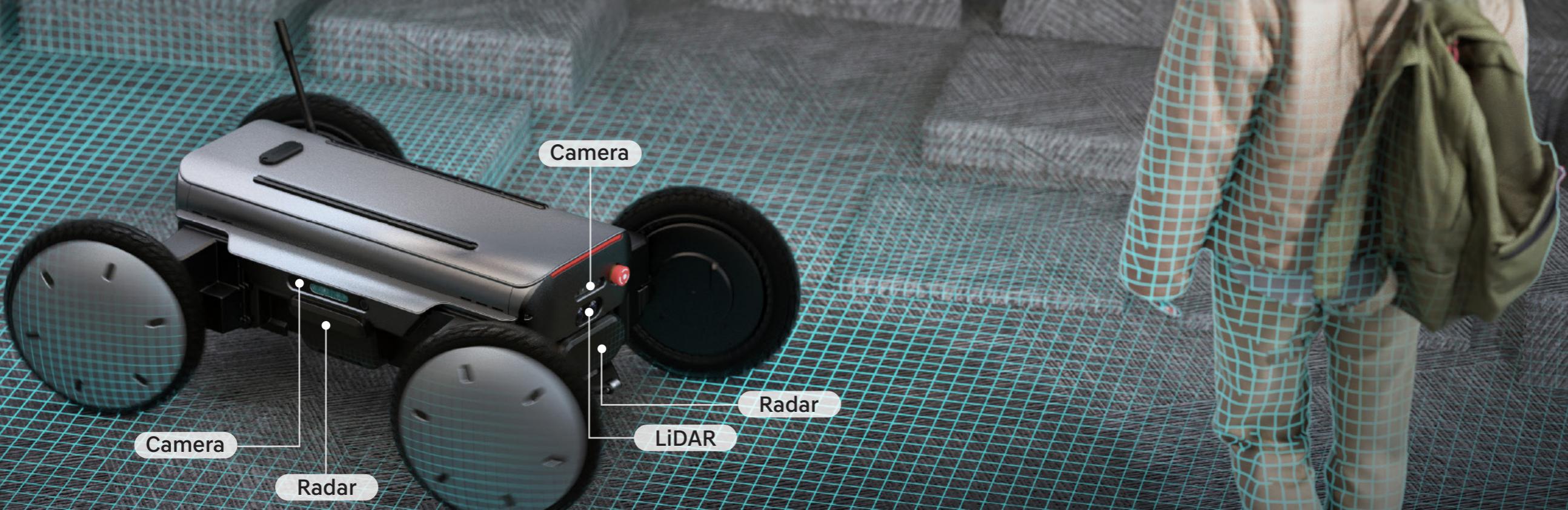
Its precisely engineered metal frame offers both rigidity and flexibility.

An innovative eccentric-based posture control system overcomes the limitations of conventional robots, allowing it to tackle slopes of up to $\pm 10^\circ$ and obstacles up to 20cm high.

By applying advanced automotive manufacturing techniques, MobED becomes more than just a robot. It embodies a new paradigm of mobility.

Hardware Key Features

Drive System	Four-wheel independent steering in-wheel system			
Core Module	12-DOF structure based on DnL (Drive & Lift) modules			
Posture Control	Active leveling based on an eccentric mechanism			
Slope/Obstacle Capability	Capable of climbing $\pm 10^\circ$ slopes and traversing 20cm obstacles			
Environmental Resistance	Dust- and water-resistance rating of IP54			
Maximum Speed	10km/h (6.3mph)			
Payload Capacity	Pro	Up to 47 kg (103.6 lb)	Basic	Up to 57kg (125.6lb)
Charging	Charging-station recognition, automatic docking and undocking (The Basic model requires manual charging)			



Intuitive Autonomy

Autonomous Driving Made Easy for Everyone

MobED's autonomous driving technology is designed for easy use by anyone.

With an intuitive interface built on a 3D model and touchscreen controls, users can operate autonomous functions through simple commands—no technical background required.

Safety is MobED's top priority. Powered by artificial intelligence, it detects people and objects, automatically avoiding obstacles while maintaining stable driving.

MobED combines sophisticated software technology with an intuitive user interface.

MobED delivers a truly “universal robotic solution,” bringing autonomous mobility within reach for everyone from everyday users to advanced professionals.

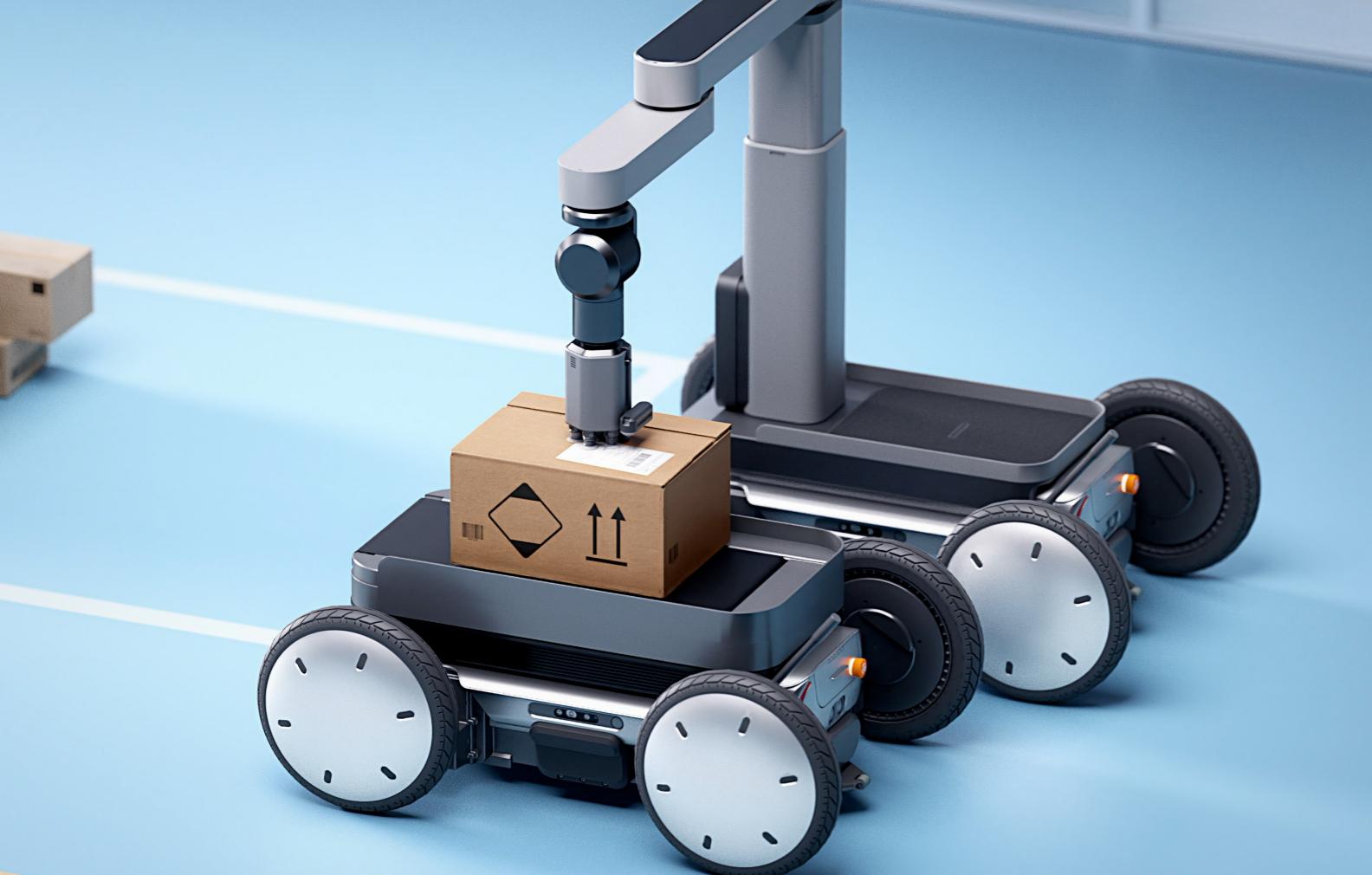


7" touch screen

You can easily set destinations via the touch screen and monitor the current autonomous driving view in real time through the controller.

Software & Autonomy Features

Sensor Configuration	Equipped with various sensors (2 LiDAR, 8 radars, 3 cameras) *Based on MobED Pro	
Autonomous Driving Features	Spatial awareness through sensor fusion	
Safety Features	Electronic Control	Functional Safety: PL d level
	Electrical Safety	Battery (UL2271), Charger (UL60335) Safety certifications obtained
	Autonomous driving	CE (ISO13482 / ISO3691-4), UL (UL3100 / UL3300) In Progress
Alarm Functions	Provides visual (LED) and audible alerts based on product status and autonomous driving conditions	



Infinite Journey

One Platform, Infinite Potential

MobED is more than a robot—it is a versatile mobility platform engineered for truly multi-purpose applications.

With its mounting rail system and built-in communication and power ports, the platform can be easily customized for delivery, security patrols, digital signage, education, research, and many other specialized needs.

This flexibility allows for versatile applications across a wide range of purposes and tasks.

MobED reliably operates in both indoor and outdoor environments, enabling a single platform to handle diverse missions while reducing operational complexity and costs.

Its durable structure ensures long-term reliability.

Its future-proof solution allows it to respond seamlessly to evolving requirements.

MobED is a platform that unlocks limitless possibilities and delivers the future of expandable mobility.



Application Examples

Broadcast & Filming	Unmanned camera platform, mobile filming equipment
Research & Education	Experimental mobile platform, robotics research platform
Logistics & Delivery	Indoor/outdoor transport, food delivery, autonomous delivery services
Security & Patrol	Building/industrial complex patrol, facility monitoring and inspection
Advertising & Promotion	Mobile digital signage, promotional robots

*Top Module Port Interface

Category	MobED Pro	MobED Basic
Mechanical Specifications	Mounting rail	←
Communication Specifications	API provided - Ethernet (Pro only)	API provided - RS422 (Basic Only)
Power Specifications	Top module port : 24V, 300W / 48V, 500W	←
Software Update & Diagnostics	Wired update, diagnostic scanner	←



MobED Pro



MobED Basic

Specifications

Category					Pro	Basic				
Product Specifications	Specifications	Dimensions	Product size (W x L x H (mm))		Up to 750 x 1150 x 650 (including antenna height)	Up to 750 x 1150 x 430				
		Weight	Tare weight (kg)		Up to 88	Up to 78				
			Maximum payload (kg)		Up to 47	Up to 57				
	Product Features	Structural characteristics		360° rotating eccentric structure (eccentric rotation radius: 100 mm)						
		Drive modes		Autonomous (Autonomous, Smart Assist) / Manual (Basic, Freestyle, Zigzag)		Manual (Basic, Freestyle, Zigzag)				
		Posture while driving		Outward deployment, inward deployment, backward, forward						
	Driving Speed	Autonomous Driving	Inward posture	Up to 0.3 m/s	Autonomous Driving: Not included *A custom autonomous driving kit can be installed on the top module					
			Other postures	Up to 2.8 m/s						
		Manual Driving		Follows Basic specifications		Inward posture Up to 0.3 m/s				
	Maximum slope angle (°)			Max ±10° (slopes over 10° automatically avoided)		← (Operation is subject to user discretion according to the environment and local traffic regulations)				
	Curbstone clearance height (mm)			100 ~ 200	Curbstone location specified by the user when creating a map					
	Sensor			LiDAR, Radar, Camera						
	Environmental Conditions	Operating Temperature / Charging Temperature		0-40°C / 1-35°C						
		Storage Temperature		0-40°C						
Battery	Operating Voltage		Rated capacity: 1.47 kWh; battery pack voltage: 36-49.2 V; rated discharge current: 33.6 A							
	Operating Time		≥ 4 hours (BMS SOC 90% → 10%)							
	Charging Time		≤ 2 h 30 min (BMS SOC 10% → 90%)							
	Certifications		UL2271							
Top Module Port Interface	Mechanical Specifications		Mounting rail							
	Communication Specifications		API provided - Ethernet (Pro only)		API provided - RS422 (Basic Only)					
	Power Specifications		Top module port : 24V, 300W / 48V, 500W							
	Software Update & Diagnostics		Wired update, diagnostic scanner							
Certifications	CE (ISO13482 / ISO3691-4), UL (UL3100 / UL3300)		In Progress							
	Ingress Protection		IP54							
Charging	Charging Station Certification		IEC / UL / KC60335, KC / CE / FCC							
	Charging Method		Manual charger, charging station (*Automatic charging module sold separately)		Manual charger					
Warranty	Quality Guarantee		1 year		1 year					

MobED



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