

Autonomous Mobile Robot

S100



Key Features

- *Multi-Modal SLAM: Utilizing multiple sensors and modules, including dual LiDAR, tri-stereo vision, and image modules, to enhance localization accuracy.*
- *Obstacle Detection and Avoidance: Capable of accurately identifying and avoiding low-lying and suspended obstacles, ensuring safe movement of the robot.*
- *Human-Robot Coexistence: Providing ultimate safety assurance in environments where humans and robots coexist, ensuring secure interaction between humans and machines.*
- *15-second battery swap for uninterrupted 24/7 delivery.*
- *Supports auto, manual charging and battery swap for diverse operational needs.*
- *Stability and Maneuverability: The machine exhibits exceptional stability and maneuverability, adapting to various complex terrain environments to ensure smooth motion.*
- *PID Control Algorithm: Utilizing a state-of-the-art PID control algorithm, it maintains stability during acceleration, braking, and turning, ensuring the smooth transportation of goods.*

Specifications

Performance

Robot Dimension	925mm*620mm*1282 mm
Load Capacity	100kg
Max Minimum Passage Width	900mm (without rotation)
Max Moving Speed	1m/s
Slope Angle	≤ 2.8°
Battery Life	8h (dependent on operating conditions)(<100kg)
Robotic Travel Direction	Unidirectional Travel
Drivetrain Configuration	Differential Drive
Rotation Capability	360° rotation in place
Maximum Compatible Shelf Size	865mm*600mm*800 mm
Braking Distance	±10cm. ±10°
Gap Crossing Ability	≤30mm
Obstacle Crossing Ability	≤10mm
Ground Clearance	≤25mm

Environment

Operating Temperature and Humidity	0 - 45°C, RH: 5% ~ 95%
Operating Environment	Indoor environment, flat ground, no dust
Storage Temperature	-20~50°C
Noise	<60dB

Battery and Charging

Battery Type	Ternary lithium battery
Battery Capacity	DC48V12Ah
Battery Dismountable	Yes
Charging Mode	Automatic charging with charging pile, manual charging by recharger and battery Swap
Charging Input	100-240V~,2.5A(MAX.)50/60Hz
Charging Time	2.5h (0-100%)
Charging Pile Dimension	305*220*146mm
Charging Pile Weight	2.2kg

Hardware

Machine Material	ABS & aluminum alloy
Robot Weight	< 100KG
Positioning Method	Laser Positioning (for the start point if charging pile is not used)
Sensing Techniques	Lidar, Image module, Stereo vision, Collision sensor, IMU
Front and Rear Collision Sensor Detection	20 ~ 150N
Emergency Stop Button	Front, Side, Rear
Network	Wi-Fi/4G
Touch Screen	10.1inch(1280*800)
Interactive Ability	Light/Touch/Voice Prompt
WIFI	802.11b/g/n transmission
WIFI Frequency	2.4-2.484GHZ
LoRa Frequency	850.125MHz~930.125MHz

System and Function

System	Linux(Control) & Android(Interaction)
App Language	Chinese, English, Japanese, Korean, Thai
App Functions	Direct delivery, Multi-point delivery, Cycle Mode
Voice Reminder	Different voice prompt in different working mode and general operation.

Official Standard and Optional Parts

Package Main Contents	Robot*1, Battery Recharger*1, Charging Pile, Product Manual*1
Optional Part	Calling System, Container, TBD
Robot Color Optional	TBD

Package Content



Battery Recharger*1

*The actual recharger may be different.



Product Manual*1



Charging Pile*1

Optional Parts



Calling System



Control Center



Shelf