

 GUOZI

Smart Lifting & Handling AGV

Ants Series



Introduction

ANTS series is lifting mobile robots catering different load requirements from 100-1500kg. It takes differential wheeled drive and electric lifting mechanism as its main form of motion.

ANTS series combine Guozi's years of deep cultivation experience in the field of mobile robots, with a variety of navigation integration technologies and Guozi GRACE platform to realize multi-scenario cargo handling and provide customers with efficient, safe, stable and cost-effective solutions.



Safe

With front and rear lasers plus safety rims, it has achieved multiple and all-around protection. ANTs has passed the strict ISO3691-4 standard and obtained the CE certificate.



Efficient

High running and lifting speeds, coupled with a powerful and flexible dispatching system for the most efficient path planning.



Flexible

Support dynamic path planning, flexibly allocate the robots and paths according to the order quantity, to ensure optimal operation efficiency.



Universal

Adopting Guozi's self-developed GRACE platform, both software and hardware are modularized and platform-based to maximize the compatibility of multi-scenario and various models.

Application Case

The client is China's top 500 private enterprises and smart energy solution providers. Guozi has provided smart logistics solutions for their photovoltaic cell production base in Jiangsu.

The project uses more than one hundred AGVs and integrated equipment such as robotic arms, conveyor lines, and cache WIP to realize the intelligent flow of empty and full flower baskets from texturing to silk and packaging. At the same time, the logistics system is compatible with machine consumable replacement, maintenance, and technical upgrades or other tasks. It has realized the customer handling rate and on-time rate indicators, thus ensuring stable and efficient production.

- This project is an intelligent transformation and upgrading of an already operating factory. During the delivery process of the project, Guozi realized "renovation while producing" through the design of the optimal implementation plan to ensure that the production capacity will not be affected.

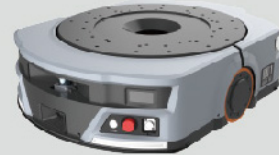
- The on-site operation channel is narrow, and the robot adopts high-precision laser SLAM and visual positioning technology to achieve safe and stable operation.

- According to the project process and site conditions, the intelligent material control system (MCS) and the robot control system (RCS) are efficiently integrated to optimize the algorithms. It has achieved optimal efficiency through optimal demand generation, task management, and path planning.

- The whole factory has reduced manpower by 60%, improved cleanliness by 60%, increased automation by 90%, and reduced heavy manual labor by 98%.



Specification



Product		A3	A6
Basic Parameter	Size L*W*H(mm)	795×560×285	948×730×265
	Jacking Plate Size L*W*H(mm)	691×521×11.5	Φ644×14
	Rated Load(kg)	400	800
	Self Weight(kg)	100	200
	Ground Clearance (mm)	20	20
	Turing Diameter(mm)	855	950
	Lifting Height(mm)	60	60
	Lifting Time(s)	3	3
	Function of AGV Rotating without Goods Rotating	available	available
Navigation Performance	Navigation Mode	QR Code/Laser Reflector	QR Code/Laser Reflector
	Position and Navigation Accuracy(mm)	±5	±5
	Stop Angle Accuracy(°)	<0.5	<0.5
Motion Performance	Movement	Forward, Reverse, Turn, Rotate	Forward, Reverse, Turn, Rotate
	Rated Running Speed (No Load)(m/s)	2.0	2.0
	Rated Running Speed (Full Load)(m/s)	1.5	1.5
	Max Climbing Capacity (Full Load/No Load)(%)	3/5	3/5
	Obstacle Climbing Ability (Full Load)(mm)	5	5
	Gap Crossing Ability (Full Load)(mm)	8	8
Network Performance	Network Configuration	5.8GHz WiFi/5G	5.8GHz WiFi/5G
Safety Protection	3D Protection	Optional	Optional
	Obstacle Detection Mode	Front&Back Laser Detection	Front&Back Laser Detection
	Max Detection Range(m)	4	4
	Front Laser Max Detection Angle(°)	240	190
	Back Laser Max Detection Angle(°)	160	160
	Collision Detection	Front&Back Safety Bumpers+E-stop Button	Front&Back Safety Bumpers+E-stop Button
	Sound and Light Alarm	available	available
Battery Performance	Battery Type	Lithium Iron Phosphate Batteries	Lithium Iron Phosphate Batteries
	Rated Voltage(V)	51.2	51.2
	Rated Operating Time(H)	8	8
	Charge and Discharge Ratio	1:7	1:6

产品参数



产 品		A10	A15
Basic Parameter	Size L*W*H(mm)	1146×810×275	1146×810×275
	Jacking Plate Size L*W*H(mm)	1080×770×10	1080×770×10
	Rated Load(kg)	1100	1600
	Self Weight(kg)	210	210
	Ground Clearance (mm)	30	30
	Turing Diameter(mm)	1150	1150
	Lifting Height(mm)	68	68
	Lifting Time(s)	4.6	4.6
	Function of AGV Rotating without Goods Rotating	available	available
Navigation Performance	Navigation Mode	QR Code/Laser Reflector	QR Code/Laser Reflector
	Position and Navigation Accuracy(mm)	±5	±5
	Stop Angle Accuracy(°)	<0.5	<0.5
Motion Performance	Movement	Forward, Reverse, Turn, Rotate	Forward, Reverse, Turn, Rotate
	Rated Running Speed (No Load)(m/s)	1.6	1.2
	Rated Running Speed (Full Load)(m/s)	1.5	1
	Max Climbing Capacity (Full Load/No Load)(%)	3/5	3/5
	Obstacle Climbing Ability (Full Load)(mm)	5	5
	Gap Crossing Ability (Full Load)(mm)	8	8
Network Performance	Network Configuration	5.8GHz WiFi/5G	5.8GHz WiFi/5G
Safety Protection	3D Protection	Optional	Optional
	Obstacle Detection Mode	Front&Back Laser Detection	Front&Back Laser Detection
	Max Detection Range(m)	4	4
	Front Laser Max Detection Angle(°)	240	240
	Back Laser Max Detection Angle(°)	160	160
	Collision Detection	Front&Back Safety Bumpers+E-stop Button	Front&Back Safety Bumpers+E-stop Button
	Sound and Light Alarm	available	available
Battery Performance	Battery Type	Lithium Iron Phosphate Batteries	Lithium Iron Phosphate Batteries
	Rated Voltage(V)	51.2	51.2
	Rated Operating Time(H)	8	8
	Charge and Discharge Ratio	1:6	1:6

